

# **APPENDIX I**

## *Climate Change*



**Global Climate Change Evaluation**  
**for the**  
**Otay Ranch Village Two**  
**Comprehensive Specific Plan Amendment**

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## **List of Acronyms**

|                   |  |
|-------------------|--|
| APCD              | Air Pollution Control District                         |
| AB                | Assembly Bill  |
| AB 32             | Assembly Bill 32, Global Warming Solutions Act of 2006 |
| ARB               | Air Resources Board                                    |
| ASTM              | American Society of Testing and Materials              |
| CAPCOA            | California Air Pollution Control Officers Association  |
| CAT               | Climate Action Team                                    |
| CCAP              | Center for Clean Air Policy                            |
| CCAR              | California Climate Action Registry                     |
| CEC               | California Energy Commission                           |
| CEQA              | California Environmental Quality Act                   |
| CH <sub>4</sub>   | Methane  |
| CO                | Carbon Monoxide  |
| CO <sub>2</sub>   | Carbon Dioxide   |
| CO <sub>2</sub> e | Carbon Dioxide Equivalent                              |
| DWR               | Department of Water Resources                          |
| EIR               | Environmental Impact Report                            |
| EPA               | U.S. Environmental Protection Agency                   |
| EV                | Electric Vehicles                                      |
| GCC               | Global Climate Change                                  |
| GHG               | Greenhouse Gas   |
| GGEP              | Greenhouse Gas Emissions Policy                        |
| GGRP              | Greenhouse Gas Reduction Plan                          |
| GP                | General Plan   |
| GWP               | Global Warming Potential                               |
| HFCs              | Hydrofluorocarbons                                     |
| IPCC              | Intergovernmental Panel on Climate Change              |
| LCFS              | Low Carbon Fuel Standard                               |
| LEED              | Leadership in Energy and Environmental Design          |
| MMT               | Million Metric Tons                                    |
| MW                | Megawatts  |
| N <sub>2</sub> O  | Nitrous Oxide  |
| NO <sub>x</sub>   | Oxides of Nitrogen                                     |
| OPR               | State Office of Planning and Research                  |
| PDFs              | Project Design Features                                |
| PFCs              | Perfluorocarbons                                       |
| PM                | Particulate Matter                                     |
| ROG               | Reactive Organic Gas                                   |
| RPS               | Renewable Portfolio Standards                          |
| S-3-05            | Executive Order S-3-05                                 |
| SB                | Senate Bill  |
| SDCGHGI           | San Diego County Greenhouse Gas Inventory              |
| SPA               | Specific Plan Amendment                                |
| SRI               | Solar Reflective Index                                 |

|         |   |
|---------|---|
| THC     | Total Hydrocarbon                                     |
| UNFCCC  | United Nations Framework Convention on Climate Change |
| URBEMIS | Urban Emissions Model                                 |
| USBGC   | U.S. Green Building Council                           |
| VMT     | Vehicle Miles Traveled                                |

## **Executive Summary**

This report presents an assessment of potential global climate change impacts associated with the additional residential units and amended land uses of Otay Ranch Village 2 Comprehensive Specific Plan Amendment (SPA) Project. The evaluation addresses the potential for greenhouse gas (GHG) emissions during construction and after full buildout of the proposed Project.

GHG emissions have been calculated for “business as usual” conditions and for conditions with implementation of GHG emission reduction project design features proposed by the Project applicants. “Business as usual” is defined as the emissions that would have occurred in the absence of reductions mandated under AB 32, including GHG reductions from implementation of the Pavley 1 and Pavley 2 motor vehicle standard, GHG reductions from implementation of the Low Carbon Fuel Standard, and GHG reductions from implementation of the Renewable Portfolio Standard. “Business as usual” conditions also are based on energy efficiency standards codified in Title 24 as of 2005, and do not take into consideration energy efficiency measures codified in Title 24 as of 2013, nor do they take into account other programs such as the Federal CAFE standards. A summary of the emission calculations is provided in Table ES-1. As shown in Table ES-1, with implementation of GHG emission reduction project design features, the proposed Project would meet the goals of AB 32. With GHG reduction measures, the Project would reduce GHG emissions by more than the City of Chula Vista’s goals. The proposed Project conforms with the goals of AB 32. The proposed Project would therefore not result in any direct impacts to the global climate, and cumulative impacts would be less than significant.

| <b>Table ES-1</b><br><b>SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS WITH GHG REDUCTIONS</b> |  |                 |                  |
|---|--|-----------------|------------------|
| Emission Source   | Annual Emissions<br>(Metric tons/year) |                 |                  |
|   | CO <sub>2</sub>                        | CH <sub>4</sub> | N <sub>2</sub> O |
| <b>Operational Emissions</b>  |  |                 |                  |
| Electricity Use Emissions   | 1,104                                  | 0.0460          | 0.0123           |
| Natural Gas Use Emissions   | 1,423                                  | 0.1583          | 0.0027           |
| Water Consumption Emissions   | 541                                    | 0.0226          | 0.0060           |
| Waste Management  | 245                                    | 14.46           | 0.0000           |
| Vehicle Emissions   | 14,707                                 | 0.1165          | 0.7163           |
| Amortized Construction Emissions  | 756                                    | -               | -                |
| <b>Total</b>  | <b>18,776</b>                          | <b>14.8034</b>  | <b>0.7373</b>    |
| Global Warming Potential Factor   | <b>1</b>                               | <b>21</b>       | <b>310</b>       |
| CO <sub>2</sub> Equivalent Emissions  | 18,776                                 | 311             | 229              |
| <b>TOTAL CO<sub>2</sub> Equivalent Emissions</b>  | <b>19,315</b>                          |                 |                  |
| <b>Business as Usual CO<sub>2</sub> Equivalent Emissions</b>  | <b>30,811</b>                          |                 |                  |
| <b>Reduction</b>  | <b>37.31%</b>                          |                 |                  |

Table ES-2 provides a summary of the project design features that would be implemented by the applicant for the project to reduce GHG emissions.

| <b>Table ES-2</b><br><b>Proposed Project Design Features to Reduce GHG Emissions</b> |  |                               |                                |
|--|--|-------------------------------|--------------------------------|
| Strategy to Reduce GHG Emissions   | Description  | Emission Reduction            | Basis for Emission Reduction   |
| <b>Land Use and Community Design</b>   |  |                               |                                |
| Pedestrian Oriented Development  | The Project includes mixed commercial uses, parks, and a school at the site, and is located within the Otay Ranch Village 2 development which includes additional uses. The mixed-use nature of the project would encourage pedestrian and bicycle travel as an alternative to the automobile. | 1% to 10% (vehicle emissions) | CAPCOA White Paper, Appendix B |
| Street Widths, Pavement and Street Trees   | The Project's land use plan includes widened landscaped medians and parkways to reduce paving, which reduces heat buildup and the demand for air conditioning. Street trees also are included in the parkways and  | Unknown                       | CAPCOA White Paper, Appendix B |

**Table ES-2  
Proposed Project Design Features to Reduce GHG Emissions**

| <b>Strategy to Reduce GHG Emissions</b>                        | <b>Description</b>   | <b>Emission Reduction</b>                               | <b>Basis for Emission Reduction</b>  |
|--|--|---|--------------------------------------|
|  | medians order to provide shade that further reduces ambient air temperatures.  |   |                                      |
| <b>Transit Facilities and Alternative Transportation Modes</b> |  |   |                                      |
| Public Transportation  | According to the Traffic Impact Analysis, the project is within walking distance of ten MTS bus routes. In addition, the project is working to include a Bus Rapid Transit (BRT) station adjacent to the mixed-use commercial portion of the site. | 1% to 2% (vehicle emissions)                            | CAPCOA White Paper, Appendix B       |
| Alternative Travel Modes                                       | Pedestrian pathways and trails would accommodate pedestrian movement from the residential site to the school and adjacent park and commercial uses. Additionally, streets would be designed to accommodate bicycle travel.                         | 1% to 10% (vehicle emissions)                           | CAPCOA White Paper, Appendix B       |
| <b>Building Siting and Construction</b>                        |  |   |                                      |
| Recycling  | Project-wide recycling for single-family, multi-family, resort, school, commercial, and retail establishments would be required as required under the County's recycling ordinance.  | Unknown   | N/A                                  |
| Energy Efficiency  | All private residential and commercial structures would be designed and constructed to improve energy conservation 15% above the 2008 Building Energy Efficiency Standards in Title 24 of the California Code of Regulations.                      | 15% (energy use emissions)                              | CALBO Model Green Building Ordinance |
| Energy Efficiency  | Indoor residential appliances would carry the Environmental Protection Agency's (EPA) ENERGYSTAR® certification, as applicable and feasible.   | Embodied in Title 24 Energy Efficiency Standards.       | CAPCOA White Paper, Appendix B       |
| Energy Efficiency  | All residential units would be part of the local utility demand response program to limit peak energy usage for cooling.   | Unknown   | N/A                                  |
| Water Conservation   | Indoor residential plumbing products would carry the EPA's WaterSense certification.   | The CalGREEN Code requires a 20% reduction in water use | Green Building Standards             |
| Water Conservation   | High-efficiency irrigation equipment, such as evapotranspiration controllers, soil moisture sensors and drip emitters, would be required for all projects that install separate irrigation water meters. ordinance                                 | Unknown   | N/A                                  |
| Water Conservation   | Water efficient vegetation, including native species, would be planted in public and private landscaped areas.   | Unknown   | CAPCOA White Paper, Appendix B       |
| Water Conservation   | Natural turf in residential development  | Unknown   | N/A                                  |

| <b>Table ES-2</b><br><b>Proposed Project Design Features to Reduce GHG Emissions</b> |   |                           |                                     |
|--|---|---------------------------|-------------------------------------|
| <b>Strategy to Reduce GHG Emissions</b>  | <b>Description</b>  | <b>Emission Reduction</b> | <b>Basis for Emission Reduction</b> |
|  | would be limited to no more than 30% of the outdoor open space.   |                           |                                     |
| Solar Access   | The site design would incorporate passive solar design and building orientation principles to take advantage of the sun in the winter for heating and reduce heat gain and cooling needs during the summer. | 0.5%                      | CAPCOA White Paper, Appendix B      |
| Solar Access   | Vertical landscape elements, such as trees, large shrubs and climbing vines, shall be installed in order to shade southern and western building facades to reduce energy needed for heating and cooling.    | 1%                        | CAPCOA White Paper, Appendix B      |
| Lighting   | Energy efficient lighting for streets, parks, and other public spaces would be required. Private developers would use energy efficient lighting and design.   | Unknown                   | CAPCOA White Paper, Appendix B      |

Table ES-3 provides a summary of the emission reductions for each measure.

| <b>Table ES-3</b><br><b>SUMMARY OF GREENHOUSE GAS REDUCTION MEASURES</b><br><b>VILLAGE 2 COMPREHENSIVE SPA PROJECT</b> |                          |                            |
|--|--------------------------|----------------------------|
| <b>Transportation Emissions</b>  |                          |                            |
| <b>Business as Usual, CO<sub>2</sub>e</b>  |                          | <b>24,457</b>              |
| <b>Reductions due to Statewide Measures</b>  |                          |                            |
| <b>Measure</b>   | <b>Percent Reduction</b> | <b>Emissions Reduction</b> |
| Pavley Motor Vehicle Standards   | 20%                      | 4,891                      |
| Low Carbon Fuel Standard   | 10%                      | 2,446                      |
| Reduction for Internal vs. External Trip VMT Reduction   | 9%                       | 2,189                      |
| <b>Total Reductions</b>  |                          | <b>9,526</b>               |
| <b>Net Transportation Emissions</b>  |                          | <b>14,931</b>              |
| <b>Operational Emissions</b>   |                          |                            |
| <b>Electricity Use Business as Usual, CO<sub>2</sub>e</b>  |                          | <b>2,312</b>               |
| <b>Reductions due to Project Design Features and Statewide Measures</b>  |                          |                            |
| <b>Measure</b>   | <b>Percent Reduction</b> | <b>Emissions</b>           |

**Table ES-3**  
**SUMMARY OF GREENHOUSE GAS REDUCTION MEASURES**  
**VILLAGE 2 COMPREHENSIVE SPA PROJECT**

|  |  | <b>Reduction</b>           |
|--|--|----------------------------|
| Meet Title 24 Standards as of 2008 (compared with Title 24 as of 2005)   | 22.7% of electricity use for residential uses and 4.9% of electricity use for non-residential uses | 525                        |
| Meet CalGREEN Electricity Efficiency Standards (15% above Title 24 as of 2008)                                       | 15% of electricity use   | 268                        |
| Renewable Portfolio Standard (33% renewables)  | 27% of electricity use   | 410                        |
| <b>Total Reductions</b>  |  | <b>1,203</b>               |
| <b>Net Operational Emissions – Electricity Use</b>   |  | <b>1,109</b>               |
| <b>Natural Gas Use Business as Usual, CO2e</b>   |  | <b>1,865</b>               |
| <b>Reductions due to Project Design Features and Statewide Measures</b>  |  |                            |
| <b>Measure</b>   | <b>Percent Reduction</b>   | <b>Emissions Reduction</b> |
| Meet Title 24 Standards as of 2008   | 10% of natural gas use for residential uses, 9.4% of natural gas for non-residential uses          | 186                        |
| Meet CalGREEN Electricity Efficiency Standards (15% above Title 24 as of 2008)                                       | 15% of natural gas use   | 251                        |
| <b>Total Reductions</b>  |  | <b>437</b>                 |
| <b>Net Operational Emissions – Natural Gas Use</b>   |  | <b>1,428</b>               |
| <b>Water Use Business as Usual, CO2e</b>   |  | <b>871</b>                 |
| <b>Reductions due to Project Design Features and Statewide Measures</b>  |  |                            |
| <b>Measure</b>   | <b>Percent Reduction</b>   | <b>Emissions Reduction</b> |
| CalEEMod Water Conservation Measures, including low-flow toilets, showers, and sinks, and outdoor water conservation | 20% of indoor water use, 6% of outdoor water use   | 127                        |
| Renewable Portfolio Standard (33% renewables)  | 27% (embodied energy of water)   | 201                        |
| <b>Total Reductions</b>  |  | <b>328</b>                 |
| <b>Net Operational Emissions – Water Use</b>   |  | <b>543</b>                 |
| <b>Solid Waste Management – No Reductions Assumed</b>  |  | <b>548</b>                 |
| <b>Amortized Construction Emissions</b>  |  | <b>756</b>                 |

**Table ES-3**  
**SUMMARY OF GREENHOUSE GAS REDUCTION MEASURES**  
**VILLAGE 2 COMPREHENSIVE SPA PROJECT**

|   |               |
|---|---------------|
| <b>Total Operational Emissions without GHG Reduction Measures</b> | <b>30,811</b> |
| <b>Total Operational Emissions with GHG Reduction Measures</b>    | <b>19,315</b> |

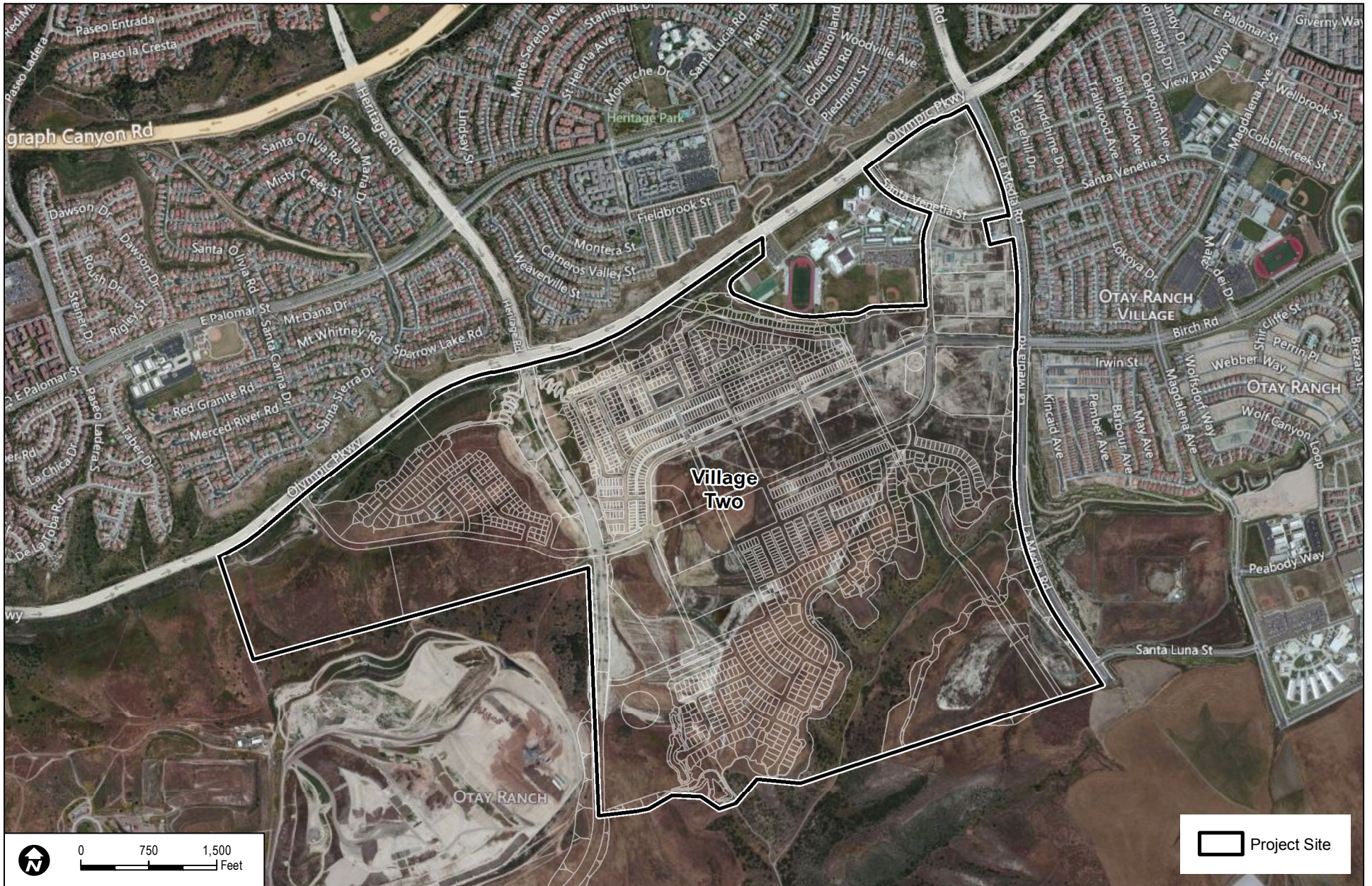
## 1.0 INTRODUCTION

This report presents an assessment of potential greenhouse gas (GHG) impacts associated with the the additional residential units and amended land uses of the Otay Ranch Village 2 Comprehensive Specific Plan Amendment (SPA) Project. This evaluation addresses the potential for GHG impacts based on the proposed increase in density at the project.

The Village 2 Comprehensive SPA is located in the southeastern portion of the City of Chula Vista. Figure 1 shows a project vicinity map with the project location shown. The applicant is proposing to increase the residential dwelling units from 2,983 units to 4,545 total units, an increase of 1,562 units. The project would provide additional public facilities to support the increase in residential uses, including construction of an additional school within the development, additional parklands, and additional community purpose facilities serving the community. The project would not change the light industrial uses.

This analysis addresses the proposed changes in land use for the Comprehensive SPA. A summary of the proposed land use changes is provided in Table 1. The proposed project requires amendments to the City of Chula Vista General Plan (GP), the Otay Ranch General Development Plan (GDP), the Otay Ranch Village 2, 3, and a portion of 4 Sectional Planning Area, and the Otay Ranch Core Master Precise Plan (CMPP).

| <b>Table 1</b>   |                      |
|--|----------------------|
| <b>Village 2 Comprehensive SPA Proposed Land Use Additions</b> |                      |
| <b>Land Use Type</b>   | <b>Quantity</b>      |
| Single Family Residential                                      | 311 dwelling units   |
| Multi-Family Residential                                       | 1,251 dwelling units |
| Mixed-Use Commercial   | 30,000 square feet   |
| Community Purpose Facilities                                   | 11.2 acres           |
| Elementary School  | 9.5 acres            |
| Light Industrial   | 1.7 acres            |
| Neighborhood Park  | 7.6 acres            |



**DUDEK**

AERIAL SOURCE: BING MAPPING SERVICE

**FIGURE 1**  
**Project Area**

6782

Otay Ranch Village Two Comprehensive SPA Plan Amendment Air Quality Analysis

## 1.1 General Principles and Existing Conditions

Global climate change (GCC) refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), which are known as greenhouse gases (GHGs). These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Gases that trap heat in the atmosphere are often called greenhouse gases, analogous to a greenhouse. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Without these natural GHGs, the Earth's temperature would be about 61° Fahrenheit cooler (California Environmental Protection Agency 2006). Emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

GHGs have been at the center of a widely contested political, economic, and scientific debate surrounding GCC. Although the conceptual existence of GCC is generally accepted, the extent to which GHGs contribute to it remains a source of debate. The State of California has been at the forefront of developing solutions to address GCC. GCC refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. GCC may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of land.

Global climate change attributable to anthropogenic (human) emissions of GHGs (mainly CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O) is currently one of the most important and widely debated scientific, economic and political issues in the United States. Historical records indicate that global climate changes have occurred in the past due to natural phenomena (such as during previous ice ages). Some data indicate that the current global conditions differ from past climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 ppm CO<sub>2</sub> equivalent concentration is required to keep global mean warming below 3.6° Fahrenheit (2° Celsius), which is assumed to be necessary to avoid dangerous climate change (Association of Environmental Professionals 2007).

State law defines greenhouse gases as any of the following compounds: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF<sub>6</sub>) (California Health and Safety Code Section 38505(g).) CO<sub>2</sub>, followed by CH<sub>4</sub> and N<sub>2</sub>O, are the most common GHGs that result from human activity.

## **1.2 Sources and Global Warming Potentials of GHG**

The State of California GHG Inventory performed by the California Air Resources Board (ARB), compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>, HFCs, and PFCs. The current inventory covers the years 1990 to 2008, and is summarized in Table 1. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the Intergovernmental Panel on Climate Change (IPCC). The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

| <b>Table 1</b><br><b>State of California GHG Emissions by Sector</b> |  |  |  |  |
|--|--|--|--|--|
| <b>Sector</b>  | <b>Total 1990 Emissions (MMTCO<sub>2</sub>e)</b> | <b>Percent of Total 1990 Emissions</b> | <b>Total 2008 Emissions (MMTCO<sub>2</sub>e)</b> | <b>Percent of Total 2008 Emissions</b> |
| Agriculture  | 23.4   | 5%                                     | 28.06  | 6%                                     |
| Commercial   | 14.4   | 3%                                     | 14.68  | 3%                                     |
| Electricity Generation   | 110.6  | 26%                                    | 116.35   | 25%                                    |
| Forestry (excluding sinks)   | 0.2  | <1%                                    | 0.19   | <1%                                    |
| Industrial   | 103.0  | 24%                                    | 92.66  | 20%                                    |
| Residential  | 29.7   | 7%                                     | 28.45  | 6%                                     |
| Transportation   | 150.7  | 35%                                    | 174.99   | 37%                                    |
| Recycling and Waste  |  |  | 6.71   | 1%                                     |
| High GWP Gases   |  |  | 15.65  | 3%                                     |
| Forestry Sinks   | (6.7)  |  | (3.98)   |  |

When accounting for GHGs, all types of GHG emissions are expressed in terms of CO<sub>2</sub> equivalents (CO<sub>2</sub>e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT).

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the “cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas” (USEPA 2006). The reference gas for GWP is CO<sub>2</sub>; therefore, CO<sub>2</sub> has a GWP of 1. The other main greenhouse gases that have been attributed to human activity include CH<sub>4</sub>, which has a GWP of 21, and N<sub>2</sub>O, which has a GWP of 310. Table 2 presents the GWP and atmospheric lifetimes of common GHGs.

| <b>Table 2</b><br><b>Global Warming Potentials and Atmospheric Lifetimes of GHGs</b> |                  |  |                                     |
|--|------------------|--|-------------------------------------|
| <b>GHG</b>   | <b>Formula</b>   | <b>100-Year Global Warming Potential</b> | <b>Atmospheric Lifetime (Years)</b> |
| Carbon Dioxide   | CO <sub>2</sub>  | 1  | Variable                            |
| Methane  | CH <sub>4</sub>  | 21                                       | 12 ± 3                              |
| Nitrous Oxide  | N <sub>2</sub> O | 310                                      | 120                                 |
| Sulfur Hexafluoride  | SF <sub>6</sub>  | 23,900                                   | 3,200                               |

Human-caused sources of CO<sub>2</sub> include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). Data from ice cores indicate that CO<sub>2</sub> concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO<sub>2</sub> have increased in the atmosphere since the industrial revolution.

CH<sub>4</sub> is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure and cattle farming. Human-caused sources of N<sub>2</sub>O include combustion of fossil fuels and industrial processes such as nylon production and production of nitric acid.

Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

In addition to the State of California GHG Inventory, a more specific regional GHG inventory was prepared by the University of San Diego School of Law Energy Policy Initiative Center (University of San Diego 2008). This San Diego County Greenhouse Gas Inventory (SDCGHGI) is a detailed inventory that takes into account the unique characteristics of the region in calculating emissions. The SDCGHGI calculated GHG emissions for 1990, 2006, and projected 2020 emissions. Based on this inventory and the emission projections for the region, the study found that emissions of GHGs must be reduced by 33 percent below business as usual in order for San Diego County to achieve 1990 emission levels by the year 2020. “Business as usual”, or forecasted emissions, is defined as the emissions that would occur in the absence of AB 32’s mandated reductions. Construction of buildings using Title 24 building standards or the County’s 2006 building code would create “business as usual” emissions.

Areas where feasible reductions can occur and the strategies for achieving those reductions are outlined in the SDCGHGI. A summary of the various sectors that contribute GHG emissions in San Diego County for the year 2006 is provided in Table 3. Total GHGs in San Diego County are estimated at 34 MMTCO<sub>2</sub>e.

| <b>Table 3</b><br><b>San Diego County 2006 GHG Emissions by Category</b> |   |                                   |
|--|---|-----------------------------------|
| <b>Sector</b>  | <b>Total Emissions<br/>(MMTCO<sub>2</sub>e)</b> | <b>Percent of Total Emissions</b> |
| On-Road Transportation   | 16  | 46%                               |
| Electricity  | 9   | 25%                               |
| Natural Gas Consumption  | 3   | 9%                                |
| Civil Aviation   | 1.7   | 5%                                |
| Industrial Processes &<br>Products                                       | 1.6   | 5%                                |
| Other Fuels/Other  | 1.1   | 4%                                |
| Off-Road Equipment &<br>Vehicles   | 1.3   | 4%                                |
| Waste  | 0.7   | 2%                                |
| Agriculture/Forestry/Land<br>Use   | 0.7   | 2%                                |
| Rail   | 0.3   | 1%                                |
| Water-Born Navigation  | 0.13  | 0.4%                              |

The sources of GHG emissions, GWP, and atmospheric lifetime of GHGs are all important variables to be considered in the process of calculating CO<sub>2</sub>e for discretionary land use projects that require a climate change analysis.

### **1.3 Regulatory Framework**

All levels of government have some responsibility for the protection of air quality, and each level (Federal, State, and regional/local) has specific responsibilities relating to air quality regulation. GHG emissions and the regulation of GHGs is a relatively new component of air quality.

#### 1.3.1 National and International Efforts

GCC is being addressed at both the international and federal levels. In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that

significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of GCC. Recently, the United States Supreme Court declared in the court case of *Massachusetts et al. vs. the Environmental Protection Agency et al.*, 549 C.S. 497 (2007) that the EPA does have the ability to regulate GHG emissions. In addition to the national and international efforts described above, many local jurisdictions have adopted climate change policies and programs.

**Endangerment Finding.** On April 17, 2009, EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

**Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)--in the atmosphere threaten the public health and welfare of current and future generations.

**Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the

Department of Transportation's National Highway Safety Administration on September 15, 2009.

**Mandatory GHG Reporting Rule.** On March 10, 2009, in response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), EPA proposed a rule that requires mandatory reporting of greenhouse gas (GHG) emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and was published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. The rule would collect accurate and comprehensive emissions data to inform future policy decisions.

EPA is requiring suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF<sub>6</sub>), and other fluorinated gases including nitrogen trifluoride (NF<sub>3</sub>) and hydrofluorinated ethers (HFE).

**Corporate Average Fuel Economy Standards.** The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon by 2020. In May 2009, President Obama announced plans to increase CAFE standards to require light-duty vehicles to meet an average fuel economy of 35.5 miles per gallon by 2016.

EPA is also responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. By 2022, the Renewable Fuel Standard (RFS) program would reduce greenhouse gas emissions by 138 million metric tons, about the annual emissions of 27 million passenger vehicles, replacing about seven percent of expected annual diesel consumption and decreasing oil imports by \$41.5 billion.

### 1.3.2 State Regulations and Standards

The following subsections describe regulations and standards that have been adopted by the State of California to address GCC issues.

**Assembly Bill 32, the California Global Warming Solutions Act of 2006.** In September 2006, Governor Schwarzenegger signed California AB 32, the global warming bill, into law. AB 32 directs the ARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020.
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that would achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that ARB finds necessary to achieve the statewide GHG emissions limit.
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

AB 32 required that by January 1, 2008, ARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. ARB adopted its Scoping Plan in December 2008, which provided estimates of the 1990 GHG emissions level and identified sectors for the reduction of GHG emissions (ARB 2008). The ARB has estimated that the 1990 GHG emissions level was 427

MMT net CO<sub>2</sub>e. The ARB estimates that a reduction of 173 MMT net CO<sub>2</sub>e emissions below business-as-usual would be required by 2020 to meet the 1990 levels. This amounts to a 15 percent reduction from today's levels, and a 30 percent reduction from projected business-as-usual levels in 2020.

The original Scoping Plan contained the main strategies California would use to reduce the greenhouse gases (GHG) that cause climate change. The original Scoping Plan included a range of GHG reduction actions which included direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, a cap-and-trade system, and an AB 32 implementation regulation. The Scoping Plan was revised in 2011 and approved by the ARB in August 2011. The revised Scoping Plan, as adopted in the Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (ARB 2011), updated the reductions required to meet the goal of reducing GHG levels to 1990 levels to account for new estimates for future fuel and energy demand, the effects of the recent economic recession, and other factors. The revised analysis estimated that a reduction of 16% would be required to meet the goal of reducing emissions to 1990 levels by 2020.

**Senate Bill 97.** Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs OPR to develop draft CEQA guidelines “for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions” by July 1, 2009 and directs the Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The Governor's Office of Planning and Research (OPR) published a technical advisory on CEQA and Climate Change on June 19, 2008. The guidance did not include a suggested threshold. The OPR does recommend that CEQA analyses include the following components:

- Identify greenhouse gas emissions
- Determine Significance
- Mitigate Impacts

In April, the OPR published its proposed revisions to CEQA to address GHG emissions. The amendments to CEQA indicate the following:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that “to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation.”
- OPR’s emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Having reviewed and considered all comments received, on December 30, 2009, the Natural Resources Agency adopted the proposed amendments to the state CEQA guidelines in the California Code of Regulations. These amendments became final on March 18, 2010.

**Executive Order S-3-05.** Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, “Our Changing Climate: Assessing Risks to California”, and its supporting document “Scenarios of Climate Change in California: An Overview” were published by the California Climate Change Center in 2006.

**Executive Order S-21-09.** Executive Order S-21-09 was enacted by the Governor on September 15, 2009. Executive Order S-21-09 requires that the ARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target as established in Executive Order S-14-08. Under Executive Order S-21-09, the ARB would work with the Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources, and would regulate all California utilities. The ARB would also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the ARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

**California Code of Regulations Title 24.** Although not originally intended to reduce greenhouse gas emissions, California Code of Regulations Title 24 Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The GHG emission inventory was based on Title 24 standards as of October 2005; however, Title 24 has been updated as of 2008 and standards are set to be phased in beginning in January 2010. The new Title 24 standards are anticipated to increase energy efficiency by 15%, thereby reducing GHG emissions from energy use by 15% (Eden 2009). Energy efficient buildings require less electricity, natural gas, and other fuels.

Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

**State Standards Addressing Vehicular Emissions.** California Assembly Bill 1493 (Pavley) enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by ARB would apply to 2009 and later model year vehicles. ARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18% in 2020 and by 27% in 2030 (AEP 2007). Once implemented, emissions from new light-duty vehicles are expected to be reduced in San Diego County by 21 percent by 2020. The ARB has adopted amendments to the “Pavley” regulations that reduce greenhouse gas (GHG) emissions in new passenger vehicles from 2009 through 2016. The amendments, approved by the Board on September 24, 2009, are part of California’s commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. ARB’s September amendments would cement California’s enforcement of the Pavley rule starting in 2009 while providing vehicle manufacturers with new compliance flexibility. The amendments would also prepare California to harmonize its rules with the federal rules for passenger vehicles.

Executive Order S-01-07 was enacted by the Governor on January 18, 2007. Essentially, the order mandates the following: 1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California. It is assumed that the effects of the LCFS would be a 10% reduction in GHG emissions from fuel use by 2020. On April 23, 2009, ARB adopted regulations to implement the LCFS.

On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the Low Carbon Fuel Standard (LCFS). One of the district court’s rulings preliminarily enjoined the Air Resources Board (ARB) from enforcing the regulation. In January 2012, ARB appealed that decision to the Ninth Circuit Court of Appeals (Ninth Circuit), and then moved to stay the injunction pending resolution of the appeal.

On April 23, 2012, the Ninth Circuit granted the ARB's motion for a stay of the injunction while it continues to consider ARB's appeal of the lower court's decision. ARB is therefore continuing to proceed with regulations to implement the program.

**Senate Bill 375.** Senate Bill 375 requires that regions within the state which have a metropolitan planning organization must adopt a sustainable communities strategy as part of their regional transportation plans. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so "it would be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California would not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to "encourage developers to submit applications and local governments to make land use decisions that would help the state achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit service and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

### 1.3.3 Local Regulations and Standards

Since 2000, Chula Vista has been implementing a Climate Action Plan. The original Carbon Dioxide Reduction Plan has been revised to incorporate new climate mitigation (2008) and adaptation (2011) measures to strengthen the City's climate action efforts and to facilitate the numerous community co-benefits such as utility savings, better air quality, reduced traffic congestion, local economic development, and improved quality of life. In 2008, the City's Climate Change Working Group reviewed over 90 carbon reduction measures and ultimately chose seven measures to recommend to City Council. The measures, which were designed to reduce or "mitigate" climate change impacts by reducing greenhouse gas emissions within Chula Vista to 20% below 1990 levels, are currently being implemented by multiple City departments.

The main measure that applies to development projects is the City's Green Building Standard. To implement this measure, the City adopted the 2010 California Green Buildings standards Code with local amendments. In the fall of 2009, the City also adopted an Enhanced Energy Efficiency Code. In 2011, the City incorporated sustainability criteria into its updated Air Quality Improvement Plan Guidelines and Design Manual for large and small-scale development, respectively.

## **2.0 POTENTIAL CLIMATE CHANGE IMPACTS TO PROJECT SITE**

### **2.1 Existing Conditions**

The area of the Village 2 site that would be developed under the proposed Project is currently partially undeveloped and includes disturbed areas, residential units, and small amounts of native vegetation. Natural vegetation and soils temporarily store carbon as part of the terrestrial carbon cycle. Carbon is assimilated into plants and animals as they grow and then dispersed back into the environment when they die. There are two existing sources of carbon storage at the Project site: natural vegetation and soils. It is difficult to assess net changes in carbon storage associated with the Otay Ranch Village Comprehensive SPA Project, but carbon sequestration rates for native vegetation in the Otay Ranch region are relatively low in comparison to heavily vegetated areas such as forests. For example, according to the U.S. EPA (<http://www.epa.gov/sequestration/rates.html>), riparian areas are estimated to sequester from 0.1 to 0.3 metric tons of CO<sub>2</sub>e per acre per year in comparison to forests, which are estimated to sequester 0.6 to 2.6 metric tons of CO<sub>2</sub>e per acre per year. Native vegetation in the Otay Ranch region, which consists mainly of scrub, would be expected to provide a low level of carbon sequestration. The key issue is the balance between the loss of natural vegetation and future carbon storage associated with landscaping. The situation is further complicated by changes in fire regime. Carbon in natural vegetation is likely to be released into the atmosphere through wildfire every 20 to 150 years. Carbon in landscaped areas would be protected from wildfire. The balance between these factors would influence the long-term carbon budget on the site.

The majority of carbon within the site is stored in the soil. Soil carbon accumulates from inputs of plant and animal matter, roots, and other living components of the soil ecosystem (e.g., bacteria, worms, etc.). Soil carbon is lost through biological respiration, erosion, and other forms of disturbance. Overall, soil carbon moves more slowly through the carbon cycle, and it offers greater potential for long-term carbon storage. Field observations suggest that urban soils can sequester relatively large amounts of carbon. Observations from across the United States suggest that warmer and drier climates (such as southern California) may have slightly higher soil organic matter levels when compared to equivalent areas before development.

Based on the site's current conditions, the project would result in a net increase in GHG emissions from existing conditions due to additional residences and land uses proposed.

## **2.2 Typical Adverse Effects**

The Climate Scenarios Report (CCCC 2006), uses a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21<sup>st</sup> century. Three warming ranges were identified: Lower warming range (3.0 to 5.5 degrees Fahrenheit (°F)); medium warming range (5.5 to 8.0 °F); and higher warming range (8.0 to 10.5 °F). The Climate Scenarios Report then presents an analysis of the future projected climate changes in California under each warming range scenario.

According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. These impacts are described below.

**Public Health.** Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to O<sub>3</sub> formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background O<sub>3</sub> levels increase as is predicted in some scenarios, it may become impossible to meet local air quality standards. An increase in wildfires could also occur, and the corresponding increase in the release of pollutants including PM<sub>2.5</sub> could further compromise air quality. The Climate Scenarios Report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and

heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases (such as malaria, dengue fever, yellow fever, and encephalitis) may increase, such as those spread by mosquitoes and other disease-carrying insects.

Potential public health impacts from climate change would be global in nature rather than site-specific. That being said, because the project site is not located in an area that is subject to climate sensitive diseases (such as the tropics), it is unlikely that risks associated with these diseases would increase substantially. It is too speculative to estimate the potential frequency of heat waves at the project site that would be associated with global climate change.

**Water Resources.** A vast network of reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. In addition, if temperatures continue to rise more precipitation would fall as rain instead of snow, further reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. The State's water resources are also at risk from rising sea levels. An influx of seawater would degrade California's estuaries, wetlands, and groundwater aquifers.

Impacts to water resources could affect the project site through decreased availability of water in southern California overall. Decreased availability could lead to higher prices and water rationing. However, due to the scientific and factual uncertainties regarding the effects of climate change at a regional level, it is too speculative to quantify the effect of this impact. Nonetheless, reference should be made to the EIR's water supply analysis for further information.

**Agriculture.** Increased GHG and associated increases in temperature are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture would

also impact production. Crop growth and development would change as would the intensity and frequency of pests and diseases.

This potential effect of climate change would not impact the proposed project because the project does not involve agricultural uses.

**Ecosystems/Habitats.** Continued global warming would likely shift the ranges of existing invasive plants and weeds, thus alternating competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Continued global warming is also likely to increase the populations of and types of pests. Continued global warming would also affect natural ecosystems and biological habitats throughout the State.

Due to the scientific and factual uncertainties regarding the effects of climate change at a regional and site-specific level, particularly as to sensitive biological resources, it is too speculative to assess the effect of this impact on the project site. Nonetheless, reference should be made to the EIR's analysis of biological resources for further information.

**Wildland Fires.** Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the State.

The project site generally has a low potential for fire risks due to the type of on-site native vegetation. If fire risks do increase due to global climate change, the project has developed a fire protection plan that would protect the site and minimize hazards arising from wildland fires.

**Sea Level Rising and Coastal Flooding.** Rising sea levels, more intense coastal storms, and warmer water temperatures would increasingly threaten the State's coastal regions. Under the high warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. A sea level risk of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats.

Because the site is not located in a coastal area, it is unlikely to be affected by rising sea levels.

### **2.3 Climate Adaptation Strategy**

As part of its climate change planning process, the California Natural Resources Agency prepared its California Climate Adaptation Strategy (CNRA 2009) to summarize the best known science on climate change impacts in California, with the goal of assessing vulnerability to climate change impacts. The Climate Adaptation Strategy also outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

The California Climate Adaptation Strategy takes into account the long-term, complex, and uncertain nature of climate change and establishes a proactive foundation for an ongoing adaptation process. The strategy made preliminary recommendations as a first step in addressing responses to impacts of global climate change within the state. Key recommendations include:

1. A Climate Adaptation Advisory Panel (CAAP) would be appointed to assess the greatest risks to California from climate change and recommend strategies to reduce those risks building on California's Climate Adaptation Strategy.
2. Identify necessary changes to California's water management and uses.
3. Consider project alternatives that avoid significant new development in areas that cannot be adequately protected (planning, permitting, development, and building) from flooding, wildfire and erosion due to climate change.
4. All state agencies responsible for the management and regulation of public health, infrastructure or habitat subject to significant climate change should prepare as appropriate agency-specific adaptation plans, guidance, or criteria by September 2010.

5. To the extent required by CEQA Guidelines Section 15126.2, all significant state projects, including infrastructure projects, must consider the potential impacts of locating such projects in areas susceptible to hazards resulting from climate change.
6. The California Emergency Management Agency (Cal EMA) would collaborate with the California Natural Resources Agency, the Climate Action Team, the Energy Commission, and the CAAP to assess California's vulnerability to climate change, identify impacts to state assets, and promote climate adaptation/mitigation awareness through the Hazard Mitigation Web Portal and My Hazards Website as well as other appropriate sites.
7. Using existing research the state should identify key California land and aquatic habitats that could change significantly during this century due to climate change. Based on this identification, the state should develop a plan for expanding existing protected areas or altering land and water management practices to minimize adverse effects from climate change induced phenomena.
8. The best long-term strategy to avoid increased health impacts associated with climate change is to ensure communities are healthy to build resilience to increased spread of disease and temperature increases.
9. Communities with General Plans and Local Coastal Plans should begin, when possible, to amend their plans to assess climate change impacts, identify areas most vulnerable to these impacts, and develop reasonable and rational risk reduction strategies using the CAS as guidance.
10. State fire fighting agencies should begin immediately to include climate change impact information into fire program planning to inform future planning efforts.
11. State agencies should meet projected population growth and increased energy demand with greater energy conservation and an increased use of renewable energy.
12. Existing and planned climate change research can and should be used for state planning and public outreach purposes; new climate change impact research should be broadened and funded.

In 2010, the Climate Change Working Group evaluated the potential impacts from climate change on municipal infrastructure and services and recommended strategies to "adapt" to these potential impacts. The City of Chula Vista was one of the first jurisdictions in the nation to pursue climate adaptation planning. The City's Climate Adaptation Plans include strategies to adapt to the effects of climate change in the local community.

### 3.0 CLIMATE CHANGE SIGNIFICANCE CRITERIA

The California Air Pollution Control Officers Association (CAPCOA) has indicated that projects that are estimated to emit more than 900 metric tons of GHGs would be required to conduct a GHG analysis. The 900 metric ton screening threshold for determining when a GHG analysis is required was chosen based on available guidance from CAPCOA's *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (CAPCOA 2008). The CAPCOA white paper references a 900 metric ton guideline as a conservative threshold for requiring further analysis and mitigation.

Since GCC is a global phenomenon, no direct impact would be identified for an individual land development project. According to Appendix G of the CEQA Guidelines, the following criteria are considered to establish a significance threshold for GCC impacts:

Would the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed in Section 15064.4 of the CEQA Regulations, the determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

(2) Rely on a qualitative analysis or performance based standards.

A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Regarding the first significance criterion established in the CEQA guidelines, to evaluate whether the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

To evaluate impacts based on this criterion, many lead agencies have set a goal to reduce GHG emissions by a certain amount to demonstrate consistency with AB 32. Different agencies and studies estimate different goals for reduction of emissions to achieve 1990 levels by the year 2020, as set forth in AB 32. Other agencies have estimated a reduction of 28 percent to 29 percent, based on the ARB's analysis that statewide 2020 business as usual GHG emissions would be 596 MMTCO<sub>2</sub>e, with 1990 emissions of 427 MMTCO<sub>2</sub>e, for a reduction of 28.35% (ARB 2010). Based on this goal, a significance threshold of 28.35% below "business as usual" reflects the ARB's Scoping Plan. For other projects, the City of Chula Vista has used a goal of

reducing emissions by 20% from BAU levels. However, because this project would be built out after 2020, the threshold of 28.35% was used to reflect additional reductions that would be required after 2020. The significance threshold is therefore as follows;

- The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment if its emissions meet both the City of Chula Vista's threshold of reducing emissions by 20% from BAU levels, and the Scoping Plan threshold of 28.35% below BAU levels.

According to the ARB (ARB 2008), "business as usual" is the projected emissions that would occur in 2020 if no mitigation actions were taken. For the purpose of this analysis, "business as usual" is defined as the conditions that were in place when the original Scoping Plan was developed, prior to any reductions attributable to GHG reduction programs or any other project design features that would reduce emissions of GHGs. For vehicles, therefore, "business as usual" indicates vehicle emissions without implementation of the California Pavley fuel efficiency standards, the Low Carbon Fuel Standard (LCFS), or the Federal CAFE standard, all of which regulations have been enacted to reduce emissions of GHGs. For energy use (electricity and natural gas), "business as usual" indicates energy use based on the California energy efficiency standards that were in place upon adoption of the Scoping Plan, which were the energy efficiency standards set forth by Title 24 as of 2005. For GHGs water use, "business as usual" indicates water use by the development prior to implementation of any design features designed to improve water efficiency, such as low-flow fixtures and water conservation measures. For electricity use, "business as usual" indicates electricity prior to implementation of the Renewable Portfolio Standard requirements, which require 33% of electricity to be generated by renewable resources.

Regarding the second significance criterion established in the CEQA guidelines, to evaluate whether the project would:

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The project's consistency with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of greenhouse gases has been evaluated. The project must demonstrate consistency with the City's CO<sub>2</sub> Reduction Plan. The Otay Ranch Village 2 Comprehensive SPA Project would prepare an Air Quality Improvement Plan. Applicable plans, policies, and regulations that are currently in effect are discussed in Section 1.3, and the project's consistency with these plans, policies, and regulations is discussed in the analysis in the following section. The significance threshold is therefore as follows;

- The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases if it is consistent with the City of Chula Vista's plans, policies, and regulations designed to reduce GHG emissions.

## **4.0 GREENHOUSE GAS INVENTORY**

GHG emissions associated with the additional residential units and amended land uses of the Otay Ranch Village 2 Comprehensive SPA Project were estimated separately for four categories of emissions: (1) construction; (2) energy use, including electricity and natural gas usage; (3) water consumption; (4) waste management; and (5) transportation. This inventory presents emissions based on “business as usual” assumptions. The analysis includes a baseline estimate assuming 2005 Title 24-compliant buildings, which is considered business as usual for the proposed Project. Emissions for electricity and natural gas usage were estimated based on emission factors from the California Climate Action Registry General Reporting Protocol (CCAP 2009). Emissions for solid waste were obtained from the CalEEMod Model. Emissions for vehicles were calculated based on the ARB’s *Comparison of Greenhouse Gas Reductions for the United States and Canada under U.S. CAFE Standards and California Air Resources Board Greenhouse Gas Regulations* (ARB 2008). For “business as usual” conditions, emissions were calculated without implementation of the Pavley standards or Low Carbon Fuel Standard.

The complete emissions inventory is summarized below and included in the Appendix.

### **4.1 Existing Greenhouse Gas Emissions**

As discussed in Section 2.1, the portion of the site that would be developed under the Project will result in an increase in GHG emissions over existing conditions because there are no emissions associated with the existing site. Existing vegetation does not provide any measurable sequestration.

### **4.2 Construction Greenhouse Gas Emissions**

Construction GHG emissions include emissions from heavy construction equipment, truck traffic, and worker trips. Emissions were calculated using the CalEEMod Model, Version 2013.2.1. Table 4 provides a summary of the total GHG emissions associated with construction. The total emissions are estimated at 22,329 metric tons of CO<sub>2</sub>e.

| <b>Table 4</b><br><b>Construction GHG Emissions</b><br><b>Village 2 Comprehensive SPA Project</b><br><b>Metric tons/year</b> |                       |                       |                       |                        |
|--|-----------------------|-----------------------|-----------------------|------------------------|
| <b>Year of Construction</b>  | <b>CO<sub>2</sub></b> | <b>CH<sub>4</sub></b> | <b>N<sub>2</sub>O</b> | <b>CO<sub>2</sub>e</b> |
| 2014   | 2,044                 | 0.25                  | -                     | 2,049                  |
| 2015   | 2,177                 | 0.29                  | -                     | 2,183                  |
| 2016   | 2,136                 | 0.28                  | -                     | 2,141                  |
| 2017   | 2,079                 | 0.27                  | -                     | 2,084                  |
| 2018   | 2,040                 | 0.27                  | -                     | 2,045                  |
| 2019   | 1,995                 | 0.26                  | -                     | 2,001                  |
| 2020   | 1,951                 | 0.26                  | -                     | 1,956                  |
| 2021   | 1,663                 | 0.17                  | -                     | 1,667                  |
| 2022   | 1,645                 | 0.17                  | -                     | 1,649                  |
| 2023   | 1,634                 | 0.16                  | -                     | 1,638                  |
| 2024   | 1,638                 | 0.16                  | -                     | 1,642                  |
| 2025   | 1,624                 | 0.16                  | -                     | 1,628                  |
| <b>Total</b>   | <b>22,626</b>         | <b>2.70</b>           | <b>-</b>              | <b>22,683</b>          |

The City of Chula Vista follows recommendations by the SCAQMD for purposes of evaluating construction-related GHGs under CEQA (SCAQMD 2008). Specifically, the SCAQMD recommends that the emissions be amortized over 30 years and added to operational emissions, as appropriate. Amortized over 30 years, construction would contribute 756 metric tons per year of CO<sub>2</sub> emissions. These emissions were added to the operational GHG emissions to evaluate their significance.

### 4.3 Operational Greenhouse Gas Emissions

**Energy Use Emissions.** As discussed above, energy use generates GHG through emissions from power plants that generate electricity as well as emissions from natural gas usage at the project itself.

Business as usual electricity use was estimated based on construction of the proposed Project to meet the requirements of Title 24 as of 2005. As stated in Section 3.0, based on the latest

guidelines and baseline emission calculations for energy efficiency, “business as usual” is considered to be the equivalent of Title 24 as of 2005 because the ARB’s baseline inventory and its definition of business as usual is based on compliance with Title 24 as of 2005. The ARB prepared its inventory to evaluate the required reduction from “business as usual”, which is defined as the baseline with no measures implemented to reduce emissions of GHGs. For building standards, the goal of reducing emissions below business as usual within the ARB’s Scoping Plan is based on Title 24 as of the ARB’s inventory. Thus, the baseline used in this analysis is consistent with the ARB’s analysis and goals. Emissions were calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (CCAR 2009).

Natural gas use was also estimated based on construction of the proposed Project to meet the requirements of Title 24 as of 2005. Emissions were calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (CCAR 2009).

The Project proposes to develop 311 single-family residential units, 1,251 multi-family residential dwelling units, 30,000 square feet of mixed-use commercial, 11.2 acres of community purpose facilities, an additional elementary school, 1.7 acres of light industrial uses, and 7.6 acres of neighborhood park uses at the site.

Residential electricity use was estimated based on average performance for southern California multi-family residences, according to the *2009 California Statewide Residential Appliance Saturation Survey* (CEC 2010). The energy use figures in this report represent current state-wide average uses, including those that are compliant with 2005 Title 24 standards. The *California Statewide Residential Appliance Saturation Survey* provided estimated energy use for single-family units of 7,605 and multi-family units of 3,709 kWh annually.

In the *2009 California Statewide Residential Appliance Saturation Survey* (CEC 2010), natural gas usage rates for single-family units were estimated as 421 therms per year, and for multi-family units were reported as 150 therms per year. GHG emissions were then calculated based

on the emission factors in the California Climate Action Protocol (CCAP 2009) to estimate emissions of GHGs per kWh or MMBTU used per year.

Electricity and natural gas usage for the non-residential uses was estimated based on the *California Commercial End-Use Survey* (CEC 2006) for the land uses (retail, office, light industrial, and school) proposed for the project.

**Water.** Water use and energy use are often closely linked. The provision of potable water to commercial users consumes large amounts of energy associated with five stages: source and conveyance, treatment, distribution, end use, and wastewater treatment. This inventory estimated that delivered water for the proposed Project would have an embodied energy of 0.0127 kWh/gallon.

Water usage was estimated based on the estimated indoor and outdoor water use from the CalEEMod Model, Version 2013.2.1. The total annual water use for the project was estimated at 126.8 million gallons for indoor uses, and 81.1 million gallons for outdoor uses. The embodied energy demand associated with this water use was converted to GHG emissions with the same emission factors used in the CCAP as for purchased electricity.

**Solid Waste Management.** Solid waste management GHG emissions include emissions from transport and handling of solid waste and emissions associated with landfill gas generation. Emissions of GHGs from solid waste management were based on the CalEEMod Model calculations.

**Transportation.** Several regulatory initiatives have been passed to reduce emissions from on-road vehicles, as discussed in Section 1.3. For the purpose of calculating “business as usual” emissions associated with vehicles, no credit was taken for implementation of the CAFE standards, Pavley standards, or the LCFS.

To calculate emissions associated with vehicle trips generated by the proposed Project, the trip generation rates from the Traffic Impact Analysis (Chen Ryan 2013) were used. Impacts were

calculated based on buildout trip generation rates, which total 17,800 average daily trips. Under business as usual conditions, it was assumed that all trips have the potential to be external trips. Trip lengths were based on defaults in the CalEEMod Model.

Emissions from vehicles were estimated using the ARB's emission factors without considering the effects of state and federal measures to reduce GHG emissions from EMFAC2011 (ARB 2011). The EMFAC2011 Model provides estimates of emissions based on a vehicle mix for the entire county. Because the project includes a mix of uses, it was assumed that this vehicle mix was appropriate to represent the trip and distribution of vehicle categories for the project.

The results of the inventory for operational emissions for business as usual are presented in Table 5. These include GHG emissions associated with buildings (natural gas, purchased electricity) and water consumption (energy embodied in potable water). Table 6 summarizes projected emissions using the methodologies noted above.

| <b>Table 5</b><br><b>SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS</b><br><b>BUSINESS AS USUAL SCENARIO</b> |  |                 |                  |
|---|--|-----------------|------------------|
| Emission Source   | Annual Emissions<br>(Metric tons/year) |                 |                  |
|   | CO <sub>2</sub>                        | CH <sub>4</sub> | N <sub>2</sub> O |
| <b>Operational Emissions</b>  |  |                 |                  |
| Electricity Use Emissions   | 2,302                                  | 0.0960          | 0.0257           |
| Natural Gas Use Emissions   | 1,860                                  | 0.2068          | 0.0035           |
| Water Consumption Emissions   | 867                                    | 0.0362          | 0.0097           |
| Waste Management  | 245                                    | 14.46           | 0.0000           |
| Vehicle Emissions   | 24,176                                 | 0.1458          | 0.8966           |
| Amortized Construction Emissions  | 756                                    | -               | -                |
| <b>Total</b>  | <b>30,206</b>                          | <b>14.9448</b>  | <b>0.9355</b>    |
| Global Warming Potential Factor   | <b>1</b>                               | <b>21</b>       | <b>310</b>       |
| CO <sub>2</sub> Equivalent Emissions  | 30,206                                 | 315             | 290              |
| <b>TOTAL CO<sub>2</sub> Equivalent Emissions</b>  | <b>30,811</b>                          |                 |                  |

## 5.0 SUMMARY OF PROJECT DESIGN FEATURES AND IMPACTS

As discussed in Section 3.0, a significance threshold of 28.35% below “business as usual” levels was used to evaluate the project’s GHG impacts. Also, provided the project is consistent with applicable plans, programs, and regulations, the project would be consistent with the goals of AB 32.

The Otay Ranch Village 2 Comprehensive SPA Project would meet the City of Chula Vista’s requirements for an Air Quality Improvement Plan (AQIP), which demonstrates its consistency with the City’s CO<sub>2</sub> Reduction Plan. The City’s CO<sub>2</sub> Reduction Plan was adopted in late 2000 and establishes a strategy for the City to reduce energy consumption, promote alternative transportation, and design transit-friendly, walkable communities. The following measures would be included in the project design:

| <b>Table 6</b><br><b>Proposed Project Design Features to Reduce GHG Emissions</b> |   |                               |                                     |
|---|---|-------------------------------|-------------------------------------|
| <b>Strategy to Reduce GHG Emissions</b>   | <b>Description</b>  | <b>Emission Reduction</b>     | <b>Basis for Emission Reduction</b> |
| <b>Land Use and Community Design</b>  |   |                               |                                     |
| Pedestrian Oriented Development   | The Project includes mixed commercial uses, parks, and a school at the site, and is located within the Otay Ranch Village 2 development which includes additional uses. The mixed-use nature of the project would encourage pedestrian and bicycle travel as an alternative to the automobile.  | 1% to 10% (vehicle emissions) | CAPCOA White Paper, Appendix B      |
| Street Widths, Pavement and Street Trees  | The Project’s land use plan includes widened landscaped medians and parkways to reduce paving, which reduces heat buildup and the demand for air conditioning. Street trees also are included in the parkways and medians order to provide shade that further reduces ambient air temperatures. | Unknown                       | CAPCOA White Paper, Appendix B      |
| <b>Transit Facilities and Alternative Transportation Modes</b>                    |   |                               |                                     |
| Public Transportation   | According to the Traffic Impact Analysis, the project is within walking distance of ten MTS bus routes. In addition, the project is working to include a Bus Rapid Transit (BRT) station adjacent to the mixed-use commercial portion of the site.  | 1% to 2% (vehicle emissions)  | CAPCOA White Paper, Appendix B      |

**Table 6**  
**Proposed Project Design Features to Reduce GHG Emissions**

| <b>Strategy to Reduce GHG Emissions</b> | <b>Description</b>  | <b>Emission Reduction</b>                               | <b>Basis for Emission Reduction</b>  |
|---|---|---|--------------------------------------|
| Alternative Travel Modes                | Pedestrian pathways and trails would accommodate pedestrian movement from the residential site to the school and adjacent park and commercial uses. Additionally, streets would be designed to accommodate bicycle travel.    | 1% to 10% (vehicle emissions)                           | CAPCOA White Paper, Appendix B       |
| <b>Building Siting and Construction</b> |   |   |                                      |
| Recycling                               | Project-wide recycling for single-family, multi-family, resort, school, commercial, and retail establishments would be required as required under the County's recycling ordinance.   | Unknown   | N/A                                  |
| Energy Efficiency                       | All private residential and commercial structures would be designed and constructed to improve energy conservation 15% above the 2008 Building Energy Efficiency Standards in Title 24 of the California Code of Regulations. | 15% (energy use emissions)                              | CALBO Model Green Building Ordinance |
| Energy Efficiency                       | Indoor residential appliances would carry the Environmental Protection Agency's (EPA) ENERGYSTAR® certification, as applicable and feasible.  | Embodied in Title 24 Energy Efficiency Standards.       | CAPCOA White Paper, Appendix B       |
| Energy Efficiency                       | All residential units would be part of the local utility demand response program to limit peak energy usage for cooling.  | Unknown   | N/A                                  |
| Water Conservation                      | Indoor residential plumbing products would carry the EPA's WaterSense certification.  | The CalGREEN Code requires a 20% reduction in water use | Green Building Standards             |
| Water Conservation                      | High-efficiency irrigation equipment, such as evapotranspiration controllers, soil moisture sensors and drip emitters, would be required for all projects that install separate irrigation water meters. ordinance            | Unknown   | N/A                                  |
| Water Conservation                      | Water efficient vegetation, including native species, would be planted in public and private landscaped areas.  | Unknown   | CAPCOA White Paper, Appendix B       |
| Water Conservation                      | Natural turf in residential development would be limited to no more than 30% of the outdoor open space.   | Unknown   | N/A                                  |
| Solar Access                            | The site design would incorporate passive solar design and building orientation principles to take advantage of the sun in the winter for heating and reduce heat gain and cooling needs during the summer.                   | 0.5%  | CAPCOA White Paper, Appendix B       |
| Solar Access                            | Vertical landscape elements, such as trees, large shrubs and climbing vines, shall be   | 1%  | CAPCOA White Paper, Appendix B       |

**Table 6**  
**Proposed Project Design Features to Reduce GHG Emissions**

| Strategy to Reduce GHG Emissions | Description   | Emission Reduction | Basis for Emission Reduction   |
|----------------------------------|---|--------------------|--------------------------------|
|                                  | installed in order to shade southern and western building facades to reduce energy needed for heating and cooling.  |                    |                                |
| Lighting                         | Energy efficient lighting for streets, parks, and other public spaces would be required. Private developers would use energy efficient lighting and design. | Unknown            | CAPCOA White Paper, Appendix B |

Not all of the GHG-reducing project design features identified above are quantifiable due to scientific and methodological limitations regarding GHG savings. No credit was taken for the PDFs identified above for which specific GHG emission reductions are not quantifiable; these PDFs were identified in order to provide a broader perspective on the GHG-reducing project design features that would be implemented during build-out.

The CEC (Architectural Energy Corporation 2007) estimates that implementation of the Title 24 standards as of 2008 would result in reductions in electricity use of 22.7% for residential dwellings, and 4.9% for non-residential buildings. The CEC also estimates that implementation of the Title 24 standards as of 2008 would result in reductions in natural gas use of 10% for residential dwellings and 9.4% for non-residential buildings. In addition, the Applicants have committed to constructing the buildings to meet the CalGREEN Standards of the California Building Code. As listed in the California Green Building Code, Section 503 (California Building Officials 2012), a green building should achieve more than a 15% reduction in energy usage when compared with the state's mandatory energy efficiency standards. It is therefore assumed that construction of the buildings in accordance with the Green Building Standards would reduce energy use by an additional 15%.

To account for water conservation measures, it was assumed that the project would include low-flow fixtures, and would use water-efficient irrigation and reduce irrigation requirements to the extent possible. These measures were accounted for in the CalEEMod model, and reductions were calculated using the estimated water usage.

Implementation of the RPS would affect indirect GHG emissions associated with electricity use for the Otay Ranch Village 2 Comprehensive SPA Project because electricity would be purchased from San Diego Gas and Electric. According to the SDCGHGI, implementation of the 20% RPS mandate by 2010, as established by Senate Bill 107, would reduce GHG emissions by 14% from 2006 levels. As of September 23, 2010, the ARB has adopted the regulation that implements the 33% renewable energy standard. Implementation of the 33% target by 2020 would reduce GHG emissions by an additional 13% per the SDCGHGI. Thus, implementation of Executive Order S-21-09 would serve to reduce GHG emissions by a total of 27% below 2006 levels. Credit was therefore taken for full implementation of the RPS, with a 27% reduction in emissions.

Implementation of the new Federal CAFE standards would achieve reductions that are equivalent to those proposed in AB 1493, the Pavley bill. According to the SDCGHGI, implementation of the Pavley standards would reduce emissions from light-duty on-road vehicles by a total of 20% by the year 2020. The LCFS is designed to reduce the carbon content of fuels, therefore reducing GHG emissions even if the amount of fuel consumed is constant. Based on the SDCGHGI, the LCFS would further reduce carbon emissions from fuel use by 10% by the year 2020. As discussed in the introduction, the ARB's emission factors for the fleet for the year 2020 (the target year for GHG reductions) were used to calculate emissions with implementation of state and federal GHG reduction programs for vehicles.

As discussed in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010), Measure LUT-3, Increase Diversity of Suburban Developments (Mixed Use) results in a reduction in VMT from 9 to 30%, resulting in a reduction in GHG emissions attributable to vehicles by 9 to 30%. To account for the reductions due to a mix of uses within the project site, the Traffic Impact Analysis estimated the percentage of external versus internal trips. Table 7 provides a summary of the estimated breakdown of external versus internal trips for each land use.

| <b>Table 7</b>   |                 |                    |                   |                   |
|--|-----------------|--------------------|-------------------|-------------------|
| <b>Village 2 Comprehensive SPA Internal and External Project Trips</b> |                 |                    |                   |                   |
| <b>Land Use</b>  | <b>Quantity</b> | <b>Daily Trips</b> | <b>% Internal</b> | <b>% External</b> |
| Single Family  | 311 DU          | 3,110              | 10                | 90                |
| Multi-Family   | 1,251 DU        | 1,008              | 10                | 90                |
| Mixed-Use Commercial   | 30 KSF          | 3,300              | 50                | 50                |
| Community Purpose Facilities   | 11.2 Acres      | 336                | 80                | 20                |
| Elementary School  | 9.5 Acres       | 855                | 80                | 20                |
| Light Industrial   | 1.7 Acres       | 153                | 10                | 90                |
| Neighborhood Park  | 7.6 Acres       | 38                 | 80                | 20                |

The CAPCOA reference indicates that Measure LUT-3 in a suburban development would indicate that the suburban project would have at least three of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office. The mixed-use development should encourage walking and other non-auto modes of transport from residential to office/commercial locations (and vice versa). The project should minimize the need for external trips by including services/facilities for day care, banking/ATM, restaurants, vehicle refueling, and shopping. The Village 2 Comprehensive SPA meets this requirement by providing a mix of uses, reducing VMT. For the purpose of calculating GHG emissions, taking into account the internal vs. external trips, it was assumed that internal trips would be no more than 0.5 miles in length.

In addition to the land use diversity measure, the CAPCOA guidance identifies proximity to transit as GHG reduction Measure LUT-5, Increase Transit Accessibility. The CAPCOA guidance defines transit accessibility as locating a project with high density near transit, which includes a transit station/stop with high-quality, high-frequency bus service located within a 5-10 minute walk (or roughly ¼ mile from stop to edge of development).

The results of the GHG inventory for emissions with implementation of GHG reduction measures are presented in Table 8.

| <b>Table 8</b><br><b>SUMMARY OF ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS WITH GHG REDUCTIONS</b> |  |                 |                  |
|--|--|-----------------|------------------|
| Emission Source  | Annual Emissions<br>(Metric tons/year) |                 |                  |
|  | CO <sub>2</sub>                        | CH <sub>4</sub> | N <sub>2</sub> O |
| <b>Operational Emissions</b>   |  |                 |                  |
| Electricity Use Emissions  | 1,104                                  | 0.0460          | 0.0123           |
| Natural Gas Use Emissions  | 1,423                                  | 0.1583          | 0.0027           |
| Water Consumption Emissions  | 541                                    | 0.0226          | 0.0060           |
| Waste Management   | 245                                    | 14.46           | 0.0000           |
| Vehicle Emissions  | 14,707                                 | 0.1165          | 0.7163           |
| Amortized Construction Emissions   | 756                                    | -               | -                |
| <b>Total</b>   | <b>18,776</b>                          | <b>14.8034</b>  | <b>0.7373</b>    |
| Global Warming Potential Factor  | <b>1</b>                               | <b>21</b>       | <b>310</b>       |
| CO <sub>2</sub> Equivalent Emissions   | 18,776                                 | 311             | 229              |
| <b>TOTAL CO<sub>2</sub> Equivalent Emissions</b>   | <b>19,315</b>                          |                 |                  |
| <b>Business as Usual CO<sub>2</sub> Equivalent Emissions</b>   | <b>30,811</b>                          |                 |                  |
| <b>Reduction</b>   | <b>37.31%</b>                          |                 |                  |

As shown in Table 8, the proposed Project would meet the significance threshold by reducing operational GHG emissions by 37.31%. The emissions, with inclusion of GHG reduction measures, would exceed the City of Chula Vista's goal of 20% below business as usual, and the goal based on the Scoping Plan of reducing emissions by 28.35% below business as usual.

Table 9 presents a summary of the reductions calculated for each emission category, and the resulting GHG emissions with GHG reductions included.

**Table 9**  
**SUMMARY OF GREENHOUSE GAS REDUCTION MEASURES**  
**VILLAGE 2 COMPREHENSIVE SPA PROJECT**

| <b>Transportation Emissions</b>  |  |                            |
|--|--|----------------------------|
| <b>Business as Usual, CO2e</b>   |  | <b>24,457</b>              |
| <b>Reductions due to Statewide Measures</b>                                    |  |                            |
| <b>Measure</b>   | <b>Percent Reduction</b>   | <b>Emissions Reduction</b> |
| Pavley Motor Vehicle Standards   | 20%  | 4,891                      |
| Low Carbon Fuel Standard   | 10%  | 2,446                      |
| Reduction for Internal vs. External Trip VMT Reduction                         | 9%   | 2,189                      |
| <b>Total Reductions</b>  |  | <b>9,526</b>               |
| <b>Net Transportation Emissions</b>  |  | <b>14,931</b>              |
| <b>Operational Emissions</b>   |  |                            |
| <b>Electricity Use Business as Usual, CO2e</b>                                 |  | <b>2,312</b>               |
| <b>Reductions due to Project Design Features and Statewide Measures</b>        |  |                            |
| <b>Measure</b>   | <b>Percent Reduction</b>   | <b>Emissions Reduction</b> |
| Meet Title 24 Standards as of 2008 (compared with Title 24 as of 2005)         | 22.7% of electricity use for residential uses and 4.9% of electricity use for non-residential uses | 525                        |
| Meet CalGREEN Electricity Efficiency Standards (15% above Title 24 as of 2008) | 15% of electricity use   | 268                        |
| Renewable Portfolio Standard (33% renewables)                                  | 27% of electricity use   | 410                        |
| <b>Total Reductions</b>  |  | <b>1,203</b>               |
| <b>Net Operational Emissions – Electricity Use</b>                             |  | <b>1,109</b>               |
| <b>Natural Gas Use Business as Usual, CO2e</b>                                 |  | <b>1,865</b>               |
| <b>Reductions due to Project Design Features and Statewide Measures</b>        |  |                            |
| <b>Measure</b>   | <b>Percent Reduction</b>   | <b>Emissions Reduction</b> |
| Meet Title 24 Standards as of 2008   | 10% of natural gas use for residential uses, 9.4% of natural gas for non-residential uses          | 186                        |
| Meet CalGREEN Electricity Efficiency Standards (15% above Title 24 as of 2008) | 15% of natural gas use   | 251                        |

| <b>Table 9</b><br><b>SUMMARY OF GREENHOUSE GAS REDUCTION MEASURES</b><br><b>VILLAGE 2 COMPREHENSIVE SPA PROJECT</b>  |  |                            |
|--|--|----------------------------|
| <b>Total Reductions</b>  |  | <b>437</b>                 |
| <b>Net Operational Emissions – Natural Gas Use</b>   |  | <b>1,428</b>               |
| <b>Water Use Business as Usual, CO2e</b>   |  | <b>871</b>                 |
| <b>Reductions due to Project Design Features and Statewide Measures</b>  |  |                            |
| <b>Measure</b>   | <b>Percent Reduction</b>                         | <b>Emissions Reduction</b> |
| CalEEMod Water Conservation Measures, including low-flow toilets, showers, and sinks, and outdoor water conservation | 20% of indoor water use, 6% of outdoor water use | 127                        |
| Renewable Portfolio Standard (33% renewables)  | 27% (embodied energy of water)                   | 201                        |
| <b>Total Reductions</b>  |  | <b>328</b>                 |
| <b>Net Operational Emissions – Water Use</b>   |  | <b>543</b>                 |
| <b>Solid Waste Management – No Reductions Assumed</b>  |  | <b>548</b>                 |
| <b>Amortized Construction Emissions</b>  |  | <b>756</b>                 |
| <b>Total Operational Emissions without GHG Reduction Measures</b>  |  | <b>30,811</b>              |
| <b>Total Operational Emissions with GHG Reduction Measures</b>   |  | <b>19,315</b>              |

With respect to the second significance criterion, the Otay Ranch Village 2 Comprehensive SPA Project would be consistent with applicable plans, policies, and regulations discussed in Section 1.3, including:

- ARB Scoping Plan – to the extent required by law, the Otay Ranch Village 2 Comprehensive SPA Project would comply with all applicable regulations adopted by the ARB and other regulatory agencies to implement the Scoping Plan pursuant to AB 32.
- Executive Order S-3-05 – the Otay Ranch Village 2 Comprehensive SPA Project, through implementation of project design features and compliance with vehicle standards, would enable achievement of the statewide goal of reducing GHG emissions to 1990 levels by 2020.
- Executive Order S-21-09 – the Otay Ranch Village 2 Comprehensive SPA Project would purchase power from San Diego Gas and Electric, which is developing its renewable portfolio standard in accordance with state mandates.

- California Code of Regulations Title 24 – the Otay Ranch Village 2 Comprehensive SPA Project would exceed 2008 Title 24 standards by 15% by implementing the California Green Building Standards, thereby demonstrating a commitment to the energy efficient design, construction and operation of residential and non-residential structures.
- State Vehicle Standards – vehicles operating within the Otay Ranch Village 2 Comprehensive SPA Project would meet Pavley and LCFS standards to the extent required by law.
- Senate Bill 375 – the Otay Ranch Village 2 Comprehensive SPA Project is part of a master-planned community that provides a mix of uses serving the community, consistent with the general objectives of SB 375.
- City of Chula Vista CO<sub>2</sub> Reduction Plan – Otay Ranch Village 2 Comprehensive SPA Project would be consistent with applicable policies within the CO<sub>2</sub> Reduction Plan, including the following:
  - Measure 6 – Enhanced Pedestrian Connections to Transit
  - Measure 7 – Increased Housing Density near Transit
  - Measure 8 – Site Design with Transit Orientation
  - Measure 9 – Increased Land Use Mix
  - Measure 14 – Energy Efficiency Landscaping
  - Measure 18 – Energy Efficient Buildings

The project would be consistent with the City's CO<sub>2</sub> Reduction Plan. The project would therefore not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The proposed project would therefore be consistent with the goals of AB 32 and the City's requirements, and would not result in a significant impact on GCC.

## 6.0 CONCLUSIONS

Emissions of GHGs would result in a net increase in emissions from construction and operations. As discussed in Section 5.0, emissions would be reduced to below the level of significance adopted for this analysis through the implementation of PDFs designed to reduce GHG emissions. The proposed Project would not:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Also, because the proposed Project is consistent with the applicable plans, policies, and regulations adopted for regulation of GHG emissions, the Project would not:

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The proposed Project would therefore not result in any direct impacts to the global climate, and cumulative impacts would be less than significant.

## 7.0 REFERENCES

- Architectural Energy Corporation. 2007. *2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings*. Prepared for the California Energy Commission. November 7.
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## **Appendix A**

### **Greenhouse Gas Emission Calculations**

Table A-1  
Electricity Greenhouse Gas Emissions  
Business As Usual  
Otay Ranch Village 2 Comprehensive SPA

## Electricity

| <u>Land Use</u>           | <u>Units or 1000<br/>Square feet</u> | <u>Electricity Load</u> | <u>(KWh\year)</u> | <u>MWh\year</u> |
|---------------------------|--------------------------------------|-------------------------|-------------------|-----------------|
| <b>Project</b>            |                                      |                         |                   |                 |
| Single Family Residential | 311.0                                | 7605.00                 | 2,365,155         | 2365.16         |
| Multi Family Residential  | 1251.0                               | 3709.00                 | 4,639,959         | 4639.96         |
| Mixed-Use Commercial      | 30.0                                 | 14.06                   | 422               | 0.42            |
| CPF                       | 22.4                                 | 13.10                   | 293               | 0.29            |
| Elementary School         | 55.2                                 | 7.46                    | 412               | 0.41            |
| Light Industrial          | 74.4                                 | 13.63                   | 1,014             | 1.01            |
| Neighborhood Park         | 7.6                                  |                         | 0                 | 0.00            |
| <b>Total Project</b>      |                                      |                         | <b>7,007,255</b>  | <b>7007.25</b>  |

<sup>a</sup> Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

| <b>GHG</b>            | <b>lbs/MWh<sup>b</sup></b> | <b>lbs</b>  | <b>metric tons</b> | <b>CO<sub>2</sub>E</b> |
|-----------------------|----------------------------|-------------|--------------------|------------------------|
| <b>Project</b>        |                            |             |                    |                        |
| <b>CO<sub>2</sub></b> | 724.21                     | 5074723.972 | 2301.854196        | 2301.854196            |
| <b>CH<sub>4</sub></b> | 0.0302                     | 211.6190939 | 0.095988728        | 2.015763288            |
| <b>N<sub>2</sub>O</b> | 0.0081                     | 56.75876358 | 0.025745321        | 7.981049538            |
|                       |                            |             |                    | <b>2311.85</b>         |

<sup>b</sup> Emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-2  
Natural Gas Greenhouse Gas Emissions  
Business As Usual  
Otay Ranch Village 2 Comprehensive SPA

## Natural Gas

| <u>Land Use</u>      | <u>Units or 1000<br/>Square feet</u> | <u>Usage Rate<sup>c</sup><br/>(cu.ft/sq.ft/mo) or<br/>therms/year</u> | <u>Total Natural<br/>Gas Usage<br/>Therms/year</u> | <u>Total Natural Gas<br/>Usage<br/>(MMBTU/year)</u> |
|----------------------|--------------------------------------|---|--|---|
| <b>Project</b>       |                                      |   |  |   |
| Single Family Reside | 311.0                                | 421.0   | 130,931  | 13,093  |
| Multi Family Reside  | 1251.0                               | 150.0   | 187,650  | 18,765  |
| Mixed-Use Comme      | 30.0                                 | 0.0462  | 1,386  | 139   |
| CPF                  | 22.4                                 | 0.1054  | 2,361  | 236   |
| Elementary School    | 55.2                                 | 0.1597  | 8,815  | 882   |
| Light Industrial     | 74.4                                 | 0.2599  | 19,330   | 1,933   |
| Neighborhood Park    | 7.6                                  |   |  |   |
| <b>Total Project</b> |                                      |   | <b>350,473</b>                                     | <b>35,047</b>                                       |

<sup>a</sup> Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

| <b>GHG</b>            | <b>Kg/MMBtu<sup>b</sup></b> | <b>Kg</b>    | <b>metric tons</b> | <b>CO<sub>2</sub>E (Metric Tons)</b> |
|-----------------------|-----------------------------|--------------|--------------------|--------------------------------------|
| <b>Project</b>        |                             |              |                    |                                      |
| <b>CO<sub>2</sub></b> | 53.06                       | 1,859,612.19 | 1,859.61           | 1,859.61                             |
| <b>CH<sub>4</sub></b> | 0.0059                      | 206.78       | 0.2068             | 4.34                                 |
| <b>N<sub>2</sub>O</b> | 0.0001                      | 3.50         | 0.0035             | 1.09                                 |
|                       |                             |              |                    | <b>1865.04</b>                       |

<sup>b</sup> Emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-3  
Water Use Greenhouse Gas Emissions  
Business As Usual  
Otay Ranch Village 2 Comprehensive SPA

## Water - Business As Usual

| Land Use                  | Usage Rate         |                     |                   |                  |                |
|---------------------------|--------------------|---------------------|-------------------|------------------|----------------|
|                           | Indoor Use,<br>GPY | Outdoor Use,<br>GPY | (kWh\million gal) | (KWh\year)       | MWh\year       |
| <b>Project</b>            |                    |                     |                   |                  |                |
| Single Family Residential | 20262902.0         | 12774438.2          | 12700             | 419,574          | 419.57         |
| Multi Family Residential  | 81507686.1         | 51385280.3          | 12700             | 1,687,741        | 1687.74        |
| Mixed-Use Commercial      | 2222175.6          | 1361978.6           | 12700             | 45,519           | 45.52          |
| CPF                       | 3981236.0          | 2440112.4           | 12700             | 81,551           | 81.55          |
| Elementary School         | 1599998.4          | 4114281.6           | 12700             | 72,571           | 72.57          |
| Light Industrial          | 17200375.0         | 0.0                 | 12700             | 218,445          | 218.44         |
| Neighborhood Park         | 0.0                | 9055258.3           | 12700             | 115,002          | 115.00         |
| <b>Total Project</b>      | <b>126774373.0</b> | <b>81131349.4</b>   |                   | <b>2,640,403</b> | <b>2640.40</b> |

<sup>a</sup> Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

| GHG              | lbs/MWh <sup>b</sup> | lbs         | metric tons | CO <sub>2</sub> E |
|------------------|----------------------|-------------|-------------|-------------------|
| <b>Project</b>   |                      |             |             |                   |
| CO <sub>2</sub>  | 724.21               | 1912206.021 | 867.3613534 | 867.3613534       |
| CH <sub>4</sub>  | 0.0302               | 79.74016077 | 0.036169499 | 0.759559479       |
| N <sub>2</sub> O | 0.0081               | 21.38726166 | 0.009701091 | 3.007338146       |
|                  |                      |             |             | <b>871.13</b>     |

<sup>b</sup> Emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-4  
Project-Related Traffic GHG Emissions - Business As Usual  
Otay Ranch Village 2 Comprehensive SPA

| Vehicle Class               | Number of Daily Trips | Speed | Miles per Trip | VMT              | VMT             | CO2                    | CH4                    | N2O                    | Emissions, metric tons/year |               |               |
|-----------------------------|-----------------------|-------|----------------|------------------|-----------------|------------------------|------------------------|------------------------|-----------------------------|---------------|---------------|
|                             |                       | (mph) |                | (mi/vehicle-day) |                 | Running Exhaust (g/mi) | Running Exhaust (g/mi) | Running Exhaust (g/mi) | CO2                         | CH4           | N2O           |
| <b>Residential Trips</b>    | 13118                 | 30    | 8.8352         | 115900.2         | 42303556.06     | 477.27                 | 0.002878               | 0.0177                 | <b>20191</b>                | <b>0.1217</b> | <b>0.7488</b> |
| <b>Mixed Use Commercial</b> | 3300                  | 30    | 7.6652         | 25295.16         | 9232733.4       | 477.27                 | 0.002878               | 0.0177                 | <b>4407</b>                 | <b>0.0266</b> | <b>0.1634</b> |
| <b>CPF</b>                  | 336                   | 30    | 8.026          | 2696.736         | 984308.64       | 477.27                 | 0.002878               | 0.0177                 | <b>470</b>                  | <b>0.0028</b> | <b>0.0174</b> |
| <b>Elementary School</b>    | 855                   | 30    | 8.73           | 7464.15          | 2724414.75      | 477.27                 | 0.002878               | 0.0177                 | <b>1300</b>                 | <b>0.0078</b> | <b>0.0482</b> |
| <b>Light Industrial</b>     | 153                   | 30    | 8.598          | 1315.494         | 480155.31       | 477.27                 | 0.002878               | 0.0177                 | <b>229</b>                  | <b>0.0014</b> | <b>0.0085</b> |
| <b>Park</b>                 | 38                    | 30    | 8.026          | 304.988          | 111320.62       | 477.27                 | 0.002878               | 0.0177                 | <b>53</b>                   | <b>0.0003</b> | <b>0.0020</b> |
| All (metric tons)           | 17800                 |       |                |                  | <b>55836489</b> |                        |                        |                        | <b>24176</b>                | <b>0.1458</b> | <b>0.8966</b> |

CO2e Emis      **24457**

2020 emission factors, EMFAC2007 Model, San Diego Air Basin  
Assume 8 hours prior to start for startup emissions

Table A-5  
Electricity Greenhouse Gas Emissions  
with GHG Reduction Measures  
Otay Ranch Village 2 Comprehensive SPA

## Electricity

| <b>Land Use</b>      | <b>Units or 1000<br/>Square feet</b> | <b>Electricity Load</b> | <b>(KWh\year)</b> | <b>MWh\year</b> |
|----------------------|--------------------------------------|-------------------------|-------------------|-----------------|
| <b>Project</b>       |                                      |                         |                   |                 |
| Single Family Reside | 311.0                                | 4996.87                 | 1,554,025         | 1554.03         |
| Multi Family Residen | 1251.0                               | 2437.00                 | 3,048,685         | 3048.69         |
| Mixed-Use Commerc    | 30.0                                 | 11.37                   | 341               | 0.34            |
| CPF                  | 22.4                                 | 10.59                   | 237               | 0.24            |
| Elementary School    | 55.2                                 | 6.03                    | 333               | 0.33            |
| Light Industrial     | 74.4                                 | 11.02                   | 819               | 0.82            |
| Neighborhood Park    | 7.6                                  |                         |                   |                 |
| <b>Total Project</b> |                                      |                         | <b>4,604,441</b>  | <b>4604.44</b>  |

<sup>a</sup> Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

| <b>GHG</b>            | <b>lbs/MWh<sup>b</sup></b> | <b>lbs</b>  | <b>metric tons</b> | <b>CO<sub>2</sub>E</b> |
|-----------------------|----------------------------|-------------|--------------------|------------------------|
| <b>Project</b>        |                            |             |                    |                        |
| <b>CO<sub>2</sub></b> | 528.6733                   | 2434244.828 | 1104.15398         | 1104.15398             |
| <b>CH<sub>4</sub></b> | 0.022046                   | 101.5094983 | 0.046043896        | 0.966921824            |
| <b>N<sub>2</sub>O</b> | 0.005913                   | 27.2260575  | 0.012349522        | 3.828351781            |
|                       |                            |             |                    | <b>1108.95</b>         |

Table A-6  
Natural Gas Greenhouse Gas Emissions  
with GHG Reduction Measures  
Otay Ranch Village 2 Comprehensive SPA

## Natural Gas

| <u>Land Use</u>      | <u>Units or 1000<br/>Square feet</u> | <u>Usage Rate<sup>c</sup><br/>(cu.ft/sq.ft/mo) or<br/>therms/year</u> | <u>Total Natural<br/>Gas Usage<br/>(cu.ft/year)</u> | <u>Total Natural Gas<br/>Usage<br/>(MMBTU/year)</u> |
|----------------------|--------------------------------------|---|---|---|
| <b>Project</b>       |                                      |   |   |   |
| Single Family Reside | 311.0                                | 322.1   | 100,162   | 10,016  |
| Multi Family Reside  | 1251.0                               | 114.8   | 143,552   | 14,355  |
| Mixed-Use Comme      | 30.0                                 | 0.0356  | 1,067   | 107   |
| CPF                  | 22.4                                 | 0.0812  | 1,818   | 182   |
| Elementary School    | 55.2                                 | 0.1230  | 6,789   | 679   |
| Light Industrial     | 74.4                                 | 0.2001  | 14,886  | 1,489   |
| Neighborhood Park    | 7.6                                  |   |   |   |
| <b>Total Project</b> |                                      |   | <b>268,275</b>                                      | <b>26,827</b>                                       |

<sup>a</sup> Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

| <b>GHG</b>            | <b>Kg/MMBtu<sup>b</sup></b> | <b>Kg</b>    | <b>metric tons</b> | <b>CO<sub>2</sub>E (Metric Tons)</b> |
|-----------------------|-----------------------------|--------------|--------------------|--------------------------------------|
| <b>Project</b>        |                             |              |                    |                                      |
| <b>CO<sub>2</sub></b> | 53.06                       | 1,423,466.36 | 1,423.47           | 1,423.47                             |
| <b>CH<sub>4</sub></b> | 0.0059                      | 158.28       | 0.1583             | 3.32                                 |
| <b>N<sub>2</sub>O</b> | 0.0001                      | 2.68         | 0.0027             | 0.83                                 |

**1427.62**

Table A-7  
Water Use Greenhouse Gas Emissions  
with GHG Reduction Measures  
Otay Ranch Village 2 Comprehensive SPA

## Water - with GHG Reductions

| Land Use                  | Usage Rate         |                     | (kWh\million gal) | (KWh\year)       | MWh\year       |
|---------------------------|--------------------|---------------------|-------------------|------------------|----------------|
|                           | Indoor Use,<br>GPY | Outdoor Use,<br>GPY |                   |                  |                |
| <b>Project</b>            |                    |                     |                   |                  |                |
| Single Family Residential | 16210300           | 11995200            | 12700             | 358,210          | 358.21         |
| Multi Family Residential  | 65206100           | 48250800            | 12700             | 1,440,903        | 1440.90        |
| Mixed-Use Commercial      | 1777740            | 1278900             | 12700             | 38,819           | 38.82          |
| CPF                       | 3184990            | 2291270             | 12700             | 69,549           | 69.55          |
| Elementary School         | 1280000            | 3863310             | 12700             | 65,320           | 65.32          |
| Light Industrial          | 13760300           | 0                   | 12700             | 174,756          | 174.76         |
| Neighborhood Park         | 0                  | 8502890             | 12700             | 107,987          | 107.99         |
| <b>Total Project</b>      |                    |                     |                   | <b>2,255,543</b> | <b>2255.54</b> |

<sup>a</sup> Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

| GHG              | lbs/MWh <sup>b</sup> | lbs         | metric tons | CO <sub>2</sub> E |
|------------------|----------------------|-------------|-------------|-------------------|
| <b>Project</b>   |                      |             |             |                   |
| CO <sub>2</sub>  | 528.6733             | 1192445.287 | 540.8836427 | 540.8836427       |
| CH <sub>4</sub>  | 0.022046             | 49.72569789 | 0.022555179 | 0.473658754       |
| N <sub>2</sub> O | 0.005913             | 13.33702493 | 0.006049568 | 1.875366022       |
|                  |                      |             |             | <b>543.23</b>     |

<sup>b</sup> Emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009

Table A-8  
Project-Related Traffic GHG Emissions - with GHG Reductions  
Otay Ranch Village 2 Comprehensive SPA

**External Trips**

| Vehicle Class               | Number of Daily Trips | Speed | Miles per Trip | VMT              | VMT             | CO2                    | CH4                    | N2O                    | Emissions, metric tons/year |          |             |
|-----------------------------|-----------------------|-------|----------------|------------------|-----------------|------------------------|------------------------|------------------------|-----------------------------|----------|-------------|
|                             |                       | (mph) |                | (mi/vehicle-day) |                 | Running Exhaust (g/mi) | Running Exhaust (g/mi) | Running Exhaust (g/mi) | CO2                         | CH4      | N2O         |
| <b>Residential Trips</b>    | 11806                 | 30    | 8.8352         | 104310.1         | 38073200.46     | 363.41                 | 0.002878               | 0.0177                 | <b>13836</b>                | <b>0</b> | <b>1</b>    |
| <b>Mixed Use Commercial</b> | 1650                  | 30    | 7.6652         | 12647.58         | 4616366.7       | 363.41                 | 0.002878               | 0.0177                 | <b>1678</b>                 | <b>0</b> | <b>0</b>    |
| <b>CPF</b>                  | 67                    | 30    | 8.026          | 539.3472         | 196861.728      | 363.41                 | 0.002878               | 0.0177                 | <b>72</b>                   | <b>0</b> | <b>0</b>    |
| <b>Elementary School</b>    | 171                   | 30    | 8.73           | 1492.83          | 544882.95       | 363.41                 | 0.002878               | 0.0177                 | <b>198</b>                  | <b>0</b> | <b>0</b>    |
| <b>Light Industrial</b>     | 138                   | 30    | 8.598          | 1183.945         | 432139.779      | 363.41                 | 0.002878               | 0.0177                 | <b>157</b>                  | <b>0</b> | <b>0</b>    |
| <b>Park</b>                 | 8                     | 30    | 8.026          | 60.9976          | 22264.124       | 363.41                 | 0.002878               | 0.0177                 | <b>8</b>                    | <b>0</b> | <b>0</b>    |
| All (metric tons)           |                       |       |                |                  | <b>43885716</b> |                        |                        |                        | <b>14469</b>                | <b>0</b> | <b>0.70</b> |

CO2e Emis      **14689**

2020 emission factors, EMFAC2011 Model, San Diego Air Basin, 30mph.

Miles per trip from CalEEMod averages for each land use category. No internal trip credit taken.

| CO2 | CH4 | N2O |
|-----|-----|-----|
|-----|-----|-----|

## Village 2 Comprehensive SPA Operations 2025

### San Diego Air Basin, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses               | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|-------------------------|----------|---------------|-------------|--------------------|------------|
| General Office Building | 22.40    | 1000sqft      | 11.20       | 22,400.00          | 0          |
| Elementary School       | 660.00   | Student       | 1.27        | 55,178.22          | 0          |
| General Light Industry  | 74.38    | 1000sqft      | 1.71        | 74,375.00          | 0          |
| City Park               | 7.60     | Acre          | 7.60        | 331,056.00         | 0          |
| Condo/Townhouse         | 1,251.00 | Dwelling Unit | 78.19       | 1,251,000.00       | 3578       |
| Single Family Housing   | 311.00   | Dwelling Unit | 100.97      | 559,800.00         | 889        |
| Strip Mall              | 30.00    | 1000sqft      | 0.69        | 30,000.00          | 0          |

### 1.2 Other Project Characteristics

|                                 |       |                                 |     |                                  |      |
|---------------------------------|-------|---------------------------------|-----|----------------------------------|------|
| <b>Urbanization</b>             | Urban | <b>Wind Speed (m/s)</b>         | 2.6 | <b>Precipitation Freq (Days)</b> | 40   |
| <b>Climate Zone</b>             | 13    |                                 |     | <b>Operational Year</b>          | 2025 |
| <b>Utility Company</b>          |       |                                 |     |                                  |      |
| <b>CO2 Intensity (lb/MW hr)</b> | 0     | <b>CH4 Intensity (lb/MW hr)</b> | 0   | <b>N2O Intensity (lb/MW hr)</b>  | 0    |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on project description for Comprehensive SPA additional uses

Construction Phase - Based on construction schedule

Construction Off-road Equipment Mitigation - Standard construction mitigation measures - assume all Tier 2 equipment

| Table Name              | Column Name                               | Default Value | New Value    |
|-------------------------|---|---------------|--------------|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior         | 256,505.00    | 153,303.00   |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior         | 769,514.00    | 459,908.00   |
| tblArchitecturalCoating | ConstArea_Residential_Exterior            | 1,222,290.00  | 679,320.00   |
| tblArchitecturalCoating | ConstArea_Residential_Interior            | 3,666,870.00  | 2,037,960.00 |
| tblArchitecturalCoating | EF_Nonresidential_Exterior                | 250.00        | 150.00       |
| tblArchitecturalCoating | EF_Nonresidential_Interior                | 250.00        | 100.00       |
| tblArchitecturalCoating | EF_Residential_Exterior                   | 250.00        | 150.00       |
| tblArchitecturalCoating | EF_Residential_Interior                   | 250.00        | 100.00       |
| tblAreaMitigation       | UseLowVOCPaintNonresidentialExteriorValue | 250           | 0            |
| tblAreaMitigation       | UseLowVOCPaintNonresidentialInteriorValue | 250           | 0            |
| tblAreaMitigation       | UseLowVOCPaintResidentialExteriorValue    | 250           | 0            |
| tblAreaMitigation       | UseLowVOCPaintResidentialInteriorValue    | 250           | 0            |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 1.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 2.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 5.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 2.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 2.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 5.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 2.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 2.00         |
| tblConstEquipMitigation | NumberOfEquipmentMitigated                | 0.00          | 3.00         |
| tblConstEquipMitigation | Tier                                      | No Change     | Tier 2       |
| tblConstEquipMitigation | Tier                                      | No Change     | Tier 2       |
| tblConstEquipMitigation | Tier                                      | No Change     | Tier 2       |
| tblConstEquipMitigation | Tier                                      | No Change     | Tier 2       |
| tblConstEquipMitigation | Tier                                      | No Change     | Tier 2       |

|                           |                            |           |            |
|---------------------------|----------------------------|-----------|------------|
| tblConstEquipMitigation   | Tier                       | No Change | Tier 2     |
| tblConstEquipMitigation   | Tier                       | No Change | Tier 2     |
| tblConstEquipMitigation   | Tier                       | No Change | Tier 2     |
| tblConstEquipMitigation   | Tier                       | No Change | Tier 2     |
| tblConstructionPhase      | NumDays                    | 330.00    | 3,088.00   |
| tblConstructionPhase      | NumDays                    | 4,650.00  | 3,131.00   |
| tblConstructionPhase      | NumDays                    | 330.00    | 1,698.00   |
| tblConstructionPhase      | PhaseEndDate               | 11/2/2037 | 12/31/2025 |
| tblConstructionPhase      | PhaseEndDate               | 7/5/2032  | 12/31/2020 |
| tblConstructionPhase      | PhaseStartDate             | 1/1/2026  | 3/1/2014   |
| tblConstructionPhase      | PhaseStartDate             | 1/1/2026  | 7/1/2014   |
| tblLandUse                | LotAcreage                 | 0.51      | 11.20      |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00      | 2.00       |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00      | 5.00       |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00      | 2.00       |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00      | 5.00       |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00      | 3.00       |
| tblProjectCharacteristics | OperationalYear            | 2014      | 2025       |
| tblTripsAndVMT            | VendorTripNumber           | 251.00    | 143.00     |
| tblTripsAndVMT            | WorkerTripNumber           | 1,223.00  | 689.00     |
| tblTripsAndVMT            | WorkerTripNumber           | 245.00    | 138.00     |

## 2.0 Emissions Summary

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## 2.1 Overall Construction

### Unmitigated Construction

|              | ROG            | NOx             | CO              | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2               | Total CO2               | CH4           | N2O           | CO2e                    |
|--------------|----------------|-----------------|-----------------|---------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|-------------------------|-------------------------|---------------|---------------|-------------------------|
| Year         | tons/yr        |                 |                 |               |                |               |                |                |               |               | MT/yr         |                         |                         |               |               |                         |
| 2014         | 4.1447         | 12.7911         | 14.6304         | 0.0235        | 0.9710         | 0.7249        | 1.6959         | 0.2605         | 0.6832        | 0.9437        | 0.0000        | 2,043.748<br>7          | 2,043.748<br>7          | 0.2542        | 0.0000        | 2,049.086<br>2          |
| 2015         | 4.2193         | 13.6880         | 14.9367         | 0.0254        | 1.0025         | 0.7736        | 1.7762         | 0.2689         | 0.7269        | 0.9957        | 0.0000        | 2,177.174<br>4          | 2,177.174<br>4          | 0.2883        | 0.0000        | 2,183.228<br>2          |
| 2016         | 3.9433         | 12.6008         | 14.1266         | 0.0254        | 1.0026         | 0.7059        | 1.7085         | 0.2689         | 0.6630        | 0.9319        | 0.0000        | 2,135.581<br>9          | 2,135.581<br>9          | 0.2801        | 0.0000        | 2,141.464<br>3          |
| 2017         | 3.6692         | 11.5049         | 13.3504         | 0.0252        | 0.9987         | 0.6344        | 1.6331         | 0.2679         | 0.5957        | 0.8635        | 0.0000        | 2,078.745<br>1          | 2,078.745<br>1          | 0.2717        | 0.0000        | 2,084.451<br>0          |
| 2018         | 3.4032         | 10.1708         | 12.7037         | 0.0253        | 1.0025         | 0.5374        | 1.5399         | 0.2689         | 0.5050        | 0.7739        | 0.0000        | 2,039.848<br>5          | 2,039.848<br>5          | 0.2664        | 0.0000        | 2,045.442<br>1          |
| 2019         | 3.1947         | 9.1398          | 12.1613         | 0.0253        | 1.0025         | 0.4651        | 1.4676         | 0.2689         | 0.4371        | 0.7060        | 0.0000        | 1,995.288<br>0          | 1,995.288<br>0          | 0.2606        | 0.0000        | 2,000.759<br>7          |
| 2020         | 3.0538         | 8.3235          | 11.8131         | 0.0254        | 1.0064         | 0.4109        | 1.4173         | 0.2699         | 0.3861        | 0.6560        | 0.0000        | 1,950.801<br>5          | 1,950.801<br>5          | 0.2570        | 0.0000        | 1,956.198<br>5          |
| 2021         | 2.7150         | 5.8154          | 9.5061          | 0.0222        | 0.9868         | 0.2701        | 1.2569         | 0.2647         | 0.2554        | 0.5201        | 0.0000        | 1,662.974<br>7          | 1,662.974<br>7          | 0.1691        | 0.0000        | 1,666.525<br>7          |
| 2022         | 2.5933         | 5.2125          | 9.1623          | 0.0221        | 0.9831         | 0.2314        | 1.2145         | 0.2637         | 0.2188        | 0.4825        | 0.0000        | 1,645.152<br>6          | 1,645.152<br>6          | 0.1659        | 0.0000        | 1,648.636<br>0          |
| 2023         | 2.4985         | 4.7813          | 8.8950          | 0.0221        | 0.9831         | 0.2032        | 1.1862         | 0.2637         | 0.1921        | 0.4558        | 0.0000        | 1,634.447<br>4          | 1,634.447<br>4          | 0.1632        | 0.0000        | 1,637.874<br>5          |
| 2024         | 2.4278         | 4.5527          | 8.7075          | 0.0223        | 0.9906         | 0.1821        | 1.1727         | 0.2657         | 0.1721        | 0.4378        | 0.0000        | 1,638.094<br>5          | 1,638.094<br>5          | 0.1624        | 0.0000        | 1,641.504<br>0          |
| 2025         | 2.3490         | 4.2705          | 8.4966          | 0.0222        | 0.9869         | 0.1595        | 1.1463         | 0.2647         | 0.1506        | 0.4153        | 0.0000        | 1,624.235<br>4          | 1,624.235<br>4          | 0.1599        | 0.0000        | 1,627.593<br>2          |
| <b>Total</b> | <b>38.2117</b> | <b>102.8512</b> | <b>138.4898</b> | <b>0.2865</b> | <b>11.9167</b> | <b>5.2985</b> | <b>17.2151</b> | <b>3.1963</b>  | <b>4.9859</b> | <b>8.1821</b> | <b>0.0000</b> | <b>22,626.09<br/>25</b> | <b>22,626.09<br/>25</b> | <b>2.6986</b> | <b>0.0000</b> | <b>22,682.76<br/>32</b> |

## 2.1 Overall Construction

### Mitigated Construction

|              | ROG            | NOx             | CO              | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|--------------|----------------|-----------------|-----------------|---------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| Year         | tons/yr        |                 |                 |               |                |               |                |                |               |               | MT/yr         |                    |                    |               |               |                    |
| 2014         | 3.2566         | 10.5374         | 14.4056         | 0.0235        | 0.9710         | 0.3339        | 1.3049         | 0.2605         | 0.3296        | 0.5901        | 0.0000        | 2,043.7478         | 2,043.7478         | 0.2542        | 0.0000        | 2,049.0852         |
| 2015         | 3.3028         | 11.5971         | 14.8944         | 0.0254        | 1.0025         | 0.3653        | 1.3678         | 0.2689         | 0.3620        | 0.6309        | 0.0000        | 2,177.1733         | 2,177.1733         | 0.2883        | 0.0000        | 2,183.2271         |
| 2016         | 3.1317         | 11.2702         | 14.1745         | 0.0254        | 1.0026         | 0.3583        | 1.3609         | 0.2689         | 0.3556        | 0.6245        | 0.0000        | 2,135.5808         | 2,135.5808         | 0.2801        | 0.0000        | 2,141.4632         |
| 2017         | 2.9713         | 10.9890         | 13.5135         | 0.0252        | 0.9987         | 0.3532        | 1.3519         | 0.2679         | 0.3508        | 0.6187        | 0.0000        | 2,078.7440         | 2,078.7440         | 0.2717        | 0.0000        | 2,084.4500         |
| 2018         | 2.8564         | 10.8335         | 13.0508         | 0.0253        | 1.0025         | 0.3528        | 1.3553         | 0.2689         | 0.3506        | 0.6194        | 0.0000        | 2,039.8474         | 2,039.8474         | 0.2664        | 0.0000        | 2,045.4410         |
| 2019         | 2.7603         | 10.6697         | 12.6353         | 0.0253        | 1.0025         | 0.3512        | 1.3537         | 0.2689         | 0.3491        | 0.6180        | 0.0000        | 1,995.2870         | 1,995.2870         | 0.2606        | 0.0000        | 2,000.7587         |
| 2020         | 2.6974         | 10.4859         | 12.3744         | 0.0254        | 1.0064         | 0.3505        | 1.3568         | 0.2699         | 0.3486        | 0.6185        | 0.0000        | 1,950.8004         | 1,950.8004         | 0.2570        | 0.0000        | 1,956.1974         |
| 2021         | 2.4752         | 7.3769          | 9.8041          | 0.0222        | 0.9868         | 0.2619        | 1.2488         | 0.2647         | 0.2602        | 0.5249        | 0.0000        | 1,662.9740         | 1,662.9740         | 0.1691        | 0.0000        | 1,666.5249         |
| 2022         | 2.4054         | 7.2172          | 9.5129          | 0.0221        | 0.9831         | 0.2607        | 1.2438         | 0.2637         | 0.2590        | 0.5227        | 0.0000        | 1,645.1519         | 1,645.1519         | 0.1659        | 0.0000        | 1,648.6353         |
| 2023         | 2.3468         | 7.0951          | 9.2771          | 0.0221        | 0.9831         | 0.2604        | 1.2434         | 0.2637         | 0.2587        | 0.5224        | 0.0000        | 1,634.4466         | 1,634.4466         | 0.1632        | 0.0000        | 1,637.8737         |
| 2024         | 2.3032         | 7.1255          | 9.1142          | 0.0223        | 0.9906         | 0.2625        | 1.2531         | 0.2657         | 0.2608        | 0.5265        | 0.0000        | 1,638.0938         | 1,638.0938         | 0.1624        | 0.0000        | 1,641.5033         |
| 2025         | 2.2531         | 7.0793          | 8.9233          | 0.0222        | 0.9869         | 0.2616        | 1.2485         | 0.2647         | 0.2599        | 0.5246        | 0.0000        | 1,624.2347         | 1,624.2347         | 0.1599        | 0.0000        | 1,627.5925         |
| <b>Total</b> | <b>32.7603</b> | <b>112.2767</b> | <b>141.6801</b> | <b>0.2865</b> | <b>11.9167</b> | <b>3.7724</b> | <b>15.6890</b> | <b>3.1963</b>  | <b>3.7448</b> | <b>6.9410</b> | <b>0.0000</b> | <b>22,626.0816</b> | <b>22,626.0816</b> | <b>2.6986</b> | <b>0.0000</b> | <b>22,682.7522</b> |

|                   | ROG   | NOx   | CO    | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|-------|-------|-------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 14.27 | -9.16 | -2.30 | 0.00 | 0.00          | 28.80        | 8.86       | 0.00           | 24.89         | 15.17       | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

## 2.2 Overall Operational

### Unmitigated Operational

|              | ROG             | NOx            | CO              | SO2           | Fugitive PM10  | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2          | NBio- CO2          | Total CO2          | CH4            | N2O           | CO2e               |
|--------------|-----------------|----------------|-----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|--------------------|--------------------|----------------|---------------|--------------------|
| Category     | tons/yr         |                |                 |               |                |                |                |                |                |                | MT/yr             |                    |                    |                |               |                    |
| Area         | 110.8609        | 1.4633         | 132.3316        | 0.0478        |                | 17.0272        | 17.0272        |                | 17.0267        | 17.0267        | 1,613.4799        | 695.6293           | 2,309.1093         | 1.5072         | 0.1269        | 2,380.1023         |
| Energy       | 0.1489          | 1.2775         | 0.5793          | 8.1200e-003   |                | 0.1029         | 0.1029         |                | 0.1029         | 0.1029         | 0.0000            | 1,473.4600         | 1,473.4600         | 0.0282         | 0.0270        | 1,482.4272         |
| Mobile       | 17.5058         | 11.2440        | 59.2169         | 0.2021        | 13.8593        | 0.2241         | 14.0834        | 3.7065         | 0.2069         | 3.9135         | 0.0000            | 13,282.5396        | 13,282.5396        | 0.4502         | 0.0000        | 13,291.9938        |
| Waste        |                 |                |                 |               |                | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 244.7279          | 0.0000             | 244.7279           | 14.4630        | 0.0000        | 548.4511           |
| Water        |                 |                |                 |               |                | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 40.2197           | 0.0000             | 40.2197            | 4.1309         | 0.0975        | 157.2071           |
| <b>Total</b> | <b>128.5155</b> | <b>13.9847</b> | <b>192.1278</b> | <b>0.2580</b> | <b>13.8593</b> | <b>17.3541</b> | <b>31.2134</b> | <b>3.7065</b>  | <b>17.3365</b> | <b>21.0430</b> | <b>1,898.4275</b> | <b>15,451.6289</b> | <b>17,350.0564</b> | <b>20.5795</b> | <b>0.2515</b> | <b>17,860.1814</b> |

## 2.2 Overall Operational

### Mitigated Operational

|              | ROG             | NOx            | CO              | SO2           | Fugitive PM10  | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2          | NBio- CO2          | Total CO2          | CH4            | N2O           | CO2e               |
|--------------|-----------------|----------------|-----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|--------------------|--------------------|----------------|---------------|--------------------|
| Category     | tons/yr         |                |                 |               |                |                |                |                |                |                | MT/yr             |                    |                    |                |               |                    |
| Area         | 110.8609        | 1.4633         | 132.3316        | 0.0478        |                | 17.0272        | 17.0272        |                | 17.0267        | 17.0267        | 1,613.4799        | 695.6293           | 2,309.1093         | 1.5072         | 0.1269        | 2,380.1023         |
| Energy       | 0.1489          | 1.2775         | 0.5793          | 8.1200e-003   |                | 0.1029         | 0.1029         |                | 0.1029         | 0.1029         | 0.0000            | 1,473.4600         | 1,473.4600         | 0.0282         | 0.0270        | 1,482.4272         |
| Mobile       | 17.5058         | 11.2440        | 59.2169         | 0.2021        | 13.8593        | 0.2241         | 14.0834        | 3.7065         | 0.2069         | 3.9135         | 0.0000            | 13,282.5396        | 13,282.5396        | 0.4502         | 0.0000        | 13,291.9938        |
| Waste        |                 |                |                 |               |                | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 244.7279          | 0.0000             | 244.7279           | 14.4630        | 0.0000        | 548.4511           |
| Water        |                 |                |                 |               |                | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 40.2197           | 0.0000             | 40.2197            | 4.1309         | 0.0975        | 157.2071           |
| <b>Total</b> | <b>128.5155</b> | <b>13.9847</b> | <b>192.1278</b> | <b>0.2580</b> | <b>13.8593</b> | <b>17.3541</b> | <b>31.2134</b> | <b>3.7065</b>  | <b>17.3365</b> | <b>21.0430</b> | <b>1,898.4275</b> | <b>15,451.6289</b> | <b>17,350.0564</b> | <b>20.5795</b> | <b>0.2515</b> | <b>17,860.1814</b> |

|                          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2    | NBio-CO2    | Total CO2   | CH4         | N2O         | CO2e        |
|--------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Percent Reduction</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b>  | <b>0.00</b> | <b>0.00</b>    | <b>0.00</b>   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Building Construction | Building Construction | 1/1/2014   | 12/31/2025 | 5             | 3131     |                   |
| 2            | Architectural Coating | Architectural Coating | 3/1/2014   | 12/31/2025 | 5             | 3088     |                   |
| 3            | Paving                | Paving                | 7/1/2014   | 12/31/2020 | 5             | 1698     |                   |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 2,037,960; Residential Outdoor: 679,320; Non-Residential Indoor: 459,908; Non-Residential Outdoor: 153,303  
(Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Building Construction | Cranes                    | 2      | 7.00        | 226         | 0.29        |
| Building Construction | Forklifts                 | 5      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 2      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 5      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 3      | 8.00        | 46          | 0.45        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |
| Paving                | Pavers                    | 2      | 8.00        | 125         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 130         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |

### Trips and VMT

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Building Construction | 17                      | 689.00             | 143.00             | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 138.00             | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

## **3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

### 3.2 Building Construction - 2014

#### Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 1.0254        | 7.7262        | 4.7708        | 6.7800e-003        |               | 0.5488        | 0.5488        |                | 0.5192        | 0.5192        | 0.0000        | 612.5586        | 612.5586        | 0.1547        | 0.0000        | 615.8072        |
| <b>Total</b> | <b>1.0254</b> | <b>7.7262</b> | <b>4.7708</b> | <b>6.7800e-003</b> |               | <b>0.5488</b> | <b>0.5488</b> |                | <b>0.5192</b> | <b>0.5192</b> | <b>0.0000</b> | <b>612.5586</b> | <b>612.5586</b> | <b>0.1547</b> | <b>0.0000</b> | <b>615.8072</b> |

**3.2 Building Construction - 2014****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.5191        | 2.4539        | 3.0135        | 4.4600e-003   | 0.1214        | 0.0461        | 0.1676        | 0.0347         | 0.0424        | 0.0772        | 0.0000        | 412.8435          | 412.8435          | 4.2300e-003   | 0.0000        | 412.9324          |
| Worker       | 1.5130        | 0.4979        | 4.7942        | 8.8800e-003   | 0.7210        | 6.2000e-003   | 0.7272        | 0.1916         | 5.6600e-003   | 0.1973        | 0.0000        | 720.5313          | 720.5313          | 0.0420        | 0.0000        | 721.4127          |
| <b>Total</b> | <b>2.0321</b> | <b>2.9518</b> | <b>7.8077</b> | <b>0.0133</b> | <b>0.8425</b> | <b>0.0523</b> | <b>0.8948</b> | <b>0.2263</b>  | <b>0.0481</b> | <b>0.2744</b> | <b>0.0000</b> | <b>1,133.3748</b> | <b>1,133.3748</b> | <b>0.0462</b> | <b>0.0000</b> | <b>1,134.3451</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7800e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 612.5579        | 612.5579        | 0.1547        | 0.0000        | 615.8065        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7800e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>612.5579</b> | <b>612.5579</b> | <b>0.1547</b> | <b>0.0000</b> | <b>615.8065</b> |

**3.2 Building Construction - 2014****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.5191        | 2.4539        | 3.0135        | 4.4600e-003   | 0.1214        | 0.0461        | 0.1676        | 0.0347         | 0.0424        | 0.0772        | 0.0000        | 412.8435          | 412.8435          | 4.2300e-003   | 0.0000        | 412.9324          |
| Worker       | 1.5130        | 0.4979        | 4.7942        | 8.8800e-003   | 0.7210        | 6.2000e-003   | 0.7272        | 0.1916         | 5.6600e-003   | 0.1973        | 0.0000        | 720.5313          | 720.5313          | 0.0420        | 0.0000        | 721.4127          |
| <b>Total</b> | <b>2.0321</b> | <b>2.9518</b> | <b>7.8077</b> | <b>0.0133</b> | <b>0.8425</b> | <b>0.0523</b> | <b>0.8948</b> | <b>0.2263</b>  | <b>0.0481</b> | <b>0.2744</b> | <b>0.0000</b> | <b>1,133.3748</b> | <b>1,133.3748</b> | <b>0.0462</b> | <b>0.0000</b> | <b>1,134.3451</b> |

**3.2 Building Construction - 2015****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.9641        | 7.4191        | 4.7139        | 6.7800e-003        |               | 0.5196        | 0.5196        |                | 0.4909        | 0.4909        | 0.0000        | 608.4784        | 608.4784        | 0.1506        | 0.0000        | 611.6419        |
| <b>Total</b> | <b>0.9641</b> | <b>7.4191</b> | <b>4.7139</b> | <b>6.7800e-003</b> |               | <b>0.5196</b> | <b>0.5196</b> |                | <b>0.4909</b> | <b>0.4909</b> | <b>0.0000</b> | <b>608.4784</b> | <b>608.4784</b> | <b>0.1506</b> | <b>0.0000</b> | <b>611.6419</b> |

### 3.2 Building Construction - 2015

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.4489        | 2.0993        | 2.7599        | 4.4400e-003   | 0.1214        | 0.0335        | 0.1549        | 0.0347         | 0.0308        | 0.0656        | 0.0000        | 407.4172          | 407.4172          | 3.5700e-003   | 0.0000        | 407.4923          |
| Worker       | 1.4050        | 0.4490        | 4.3043        | 8.8800e-003   | 0.7210        | 5.8000e-003   | 0.7268        | 0.1916         | 5.3100e-003   | 0.1969        | 0.0000        | 696.3186          | 696.3186          | 0.0385        | 0.0000        | 697.1267          |
| <b>Total</b> | <b>1.8539</b> | <b>2.5483</b> | <b>7.0642</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0393</b> | <b>0.8818</b> | <b>0.2263</b>  | <b>0.0361</b> | <b>0.2625</b> | <b>0.0000</b> | <b>1,103.7358</b> | <b>1,103.7358</b> | <b>0.0421</b> | <b>0.0000</b> | <b>1,104.6189</b> |

#### Mitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7800e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 608.4777        | 608.4777        | 0.1506        | 0.0000        | 611.6412        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7800e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>608.4777</b> | <b>608.4777</b> | <b>0.1506</b> | <b>0.0000</b> | <b>611.6412</b> |

### 3.2 Building Construction - 2015

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.4489        | 2.0993        | 2.7599        | 4.4400e-003   | 0.1214        | 0.0335        | 0.1549        | 0.0347         | 0.0308        | 0.0656        | 0.0000        | 407.4172          | 407.4172          | 3.5700e-003   | 0.0000        | 407.4923          |
| Worker       | 1.4050        | 0.4490        | 4.3043        | 8.8800e-003   | 0.7210        | 5.8000e-003   | 0.7268        | 0.1916         | 5.3100e-003   | 0.1969        | 0.0000        | 696.3186          | 696.3186          | 0.0385        | 0.0000        | 697.1267          |
| <b>Total</b> | <b>1.8539</b> | <b>2.5483</b> | <b>7.0642</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0393</b> | <b>0.8818</b> | <b>0.2263</b>  | <b>0.0361</b> | <b>0.2625</b> | <b>0.0000</b> | <b>1,103.7358</b> | <b>1,103.7358</b> | <b>0.0421</b> | <b>0.0000</b> | <b>1,104.6189</b> |

### 3.2 Building Construction - 2016

#### Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.8939        | 7.0487        | 4.6470        | 6.7800e-003        |               | 0.4821        | 0.4821        |                | 0.4550        | 0.4550        | 0.0000        | 604.2635        | 604.2635        | 0.1469        | 0.0000        | 607.3491        |
| <b>Total</b> | <b>0.8939</b> | <b>7.0487</b> | <b>4.6470</b> | <b>6.7800e-003</b> |               | <b>0.4821</b> | <b>0.4821</b> |                | <b>0.4550</b> | <b>0.4550</b> | <b>0.0000</b> | <b>604.2635</b> | <b>604.2635</b> | <b>0.1469</b> | <b>0.0000</b> | <b>607.3491</b> |

**3.2 Building Construction - 2016****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.3949        | 1.8233        | 2.5543        | 4.4300e-003   | 0.1214        | 0.0269        | 0.1483        | 0.0347         | 0.0247        | 0.0594        | 0.0000        | 402.6160          | 402.6160          | 3.1500e-003   | 0.0000        | 402.6822          |
| Worker       | 1.3091        | 0.4074        | 3.8834        | 8.8700e-003   | 0.7210        | 5.5400e-003   | 0.7266        | 0.1916         | 5.0900e-003   | 0.1967        | 0.0000        | 671.9404          | 671.9404          | 0.0355        | 0.0000        | 672.6859          |
| <b>Total</b> | <b>1.7040</b> | <b>2.2307</b> | <b>6.4377</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0324</b> | <b>0.8748</b> | <b>0.2263</b>  | <b>0.0298</b> | <b>0.2561</b> | <b>0.0000</b> | <b>1,074.5564</b> | <b>1,074.5564</b> | <b>0.0387</b> | <b>0.0000</b> | <b>1,075.3681</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7800e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 604.2628        | 604.2628        | 0.1469        | 0.0000        | 607.3484        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7800e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>604.2628</b> | <b>604.2628</b> | <b>0.1469</b> | <b>0.0000</b> | <b>607.3484</b> |

### 3.2 Building Construction - 2016

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.3949        | 1.8233        | 2.5543        | 4.4300e-003   | 0.1214        | 0.0269        | 0.1483        | 0.0347         | 0.0247        | 0.0594        | 0.0000        | 402.6160          | 402.6160          | 3.1500e-003   | 0.0000        | 402.6822          |
| Worker       | 1.3091        | 0.4074        | 3.8834        | 8.8700e-003   | 0.7210        | 5.5400e-003   | 0.7266        | 0.1916         | 5.0900e-003   | 0.1967        | 0.0000        | 671.9404          | 671.9404          | 0.0355        | 0.0000        | 672.6859          |
| <b>Total</b> | <b>1.7040</b> | <b>2.2307</b> | <b>6.4377</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0324</b> | <b>0.8748</b> | <b>0.2263</b>  | <b>0.0298</b> | <b>0.2561</b> | <b>0.0000</b> | <b>1,074.5564</b> | <b>1,074.5564</b> | <b>0.0387</b> | <b>0.0000</b> | <b>1,075.3681</b> |

### 3.2 Building Construction - 2017

#### Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.8083        | 6.5081        | 4.5275        | 6.7500e-003        |               | 0.4341        | 0.4341        |                | 0.4096        | 0.4096        | 0.0000        | 595.8441        | 595.8441        | 0.1428        | 0.0000        | 598.8436        |
| <b>Total</b> | <b>0.8083</b> | <b>6.5081</b> | <b>4.5275</b> | <b>6.7500e-003</b> |               | <b>0.4341</b> | <b>0.4341</b> |                | <b>0.4096</b> | <b>0.4096</b> | <b>0.0000</b> | <b>595.8441</b> | <b>595.8441</b> | <b>0.1428</b> | <b>0.0000</b> | <b>598.8436</b> |

**3.2 Building Construction - 2017****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.3571        | 1.6235        | 2.4041        | 4.4100e-003   | 0.1209        | 0.0232        | 0.1442        | 0.0346         | 0.0214        | 0.0560        | 0.0000        | 394.2939          | 394.2939          | 2.9700e-003   | 0.0000        | 394.3563          |
| Worker       | 1.2123        | 0.3688        | 3.4871        | 8.8400e-003   | 0.7183        | 5.3500e-003   | 0.7236        | 0.1909         | 4.9400e-003   | 0.1958        | 0.0000        | 643.5034          | 643.5034          | 0.0327        | 0.0000        | 644.1904          |
| <b>Total</b> | <b>1.5695</b> | <b>1.9923</b> | <b>5.8911</b> | <b>0.0133</b> | <b>0.8392</b> | <b>0.0286</b> | <b>0.8678</b> | <b>0.2255</b>  | <b>0.0263</b> | <b>0.2518</b> | <b>0.0000</b> | <b>1,037.7972</b> | <b>1,037.7972</b> | <b>0.0357</b> | <b>0.0000</b> | <b>1,038.5467</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2681        | 5.7839        | 4.4092        | 6.7500e-003        |               | 0.2260        | 0.2260        |                | 0.2260        | 0.2260        | 0.0000        | 595.8434        | 595.8434        | 0.1428        | 0.0000        | 598.8429        |
| <b>Total</b> | <b>0.2681</b> | <b>5.7839</b> | <b>4.4092</b> | <b>6.7500e-003</b> |               | <b>0.2260</b> | <b>0.2260</b> |                | <b>0.2260</b> | <b>0.2260</b> | <b>0.0000</b> | <b>595.8434</b> | <b>595.8434</b> | <b>0.1428</b> | <b>0.0000</b> | <b>598.8429</b> |

**3.2 Building Construction - 2017****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2              | Total CO2              | CH4           | N2O           | CO2e                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|---------------|------------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                        |                        |               |               |                        |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Vendor       | 0.3571        | 1.6235        | 2.4041        | 4.4100e-003   | 0.1209        | 0.0232        | 0.1442        | 0.0346         | 0.0214        | 0.0560        | 0.0000        | 394.2939               | 394.2939               | 2.9700e-003   | 0.0000        | 394.3563               |
| Worker       | 1.2123        | 0.3688        | 3.4871        | 8.8400e-003   | 0.7183        | 5.3500e-003   | 0.7236        | 0.1909         | 4.9400e-003   | 0.1958        | 0.0000        | 643.5034               | 643.5034               | 0.0327        | 0.0000        | 644.1904               |
| <b>Total</b> | <b>1.5695</b> | <b>1.9923</b> | <b>5.8911</b> | <b>0.0133</b> | <b>0.8392</b> | <b>0.0286</b> | <b>0.8678</b> | <b>0.2255</b>  | <b>0.0263</b> | <b>0.2518</b> | <b>0.0000</b> | <b>1,037.797<br/>2</b> | <b>1,037.797<br/>2</b> | <b>0.0357</b> | <b>0.0000</b> | <b>1,038.546<br/>7</b> |

**3.2 Building Construction - 2018****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.7005        | 5.7848        | 4.3937        | 6.7800e-003        |               | 0.3672        | 0.3672        |                | 0.3468        | 0.3468        | 0.0000        | 591.9249        | 591.9249        | 0.1402        | 0.0000        | 594.8688        |
| <b>Total</b> | <b>0.7005</b> | <b>5.7848</b> | <b>4.3937</b> | <b>6.7800e-003</b> |               | <b>0.3672</b> | <b>0.3672</b> |                | <b>0.3468</b> | <b>0.3468</b> | <b>0.0000</b> | <b>591.9249</b> | <b>591.9249</b> | <b>0.1402</b> | <b>0.0000</b> | <b>594.8688</b> |

### 3.2 Building Construction - 2018

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.3334        | 1.4716        | 2.3070        | 4.4200e-003   | 0.1214        | 0.0217        | 0.1430        | 0.0347         | 0.0199        | 0.0546        | 0.0000        | 389.0106          | 389.0106          | 2.9300e-003   | 0.0000        | 389.0720          |
| Worker       | 1.1342        | 0.3378        | 3.1663        | 8.8700e-003   | 0.7210        | 5.2700e-003   | 0.7263        | 0.1916         | 4.8800e-003   | 0.1965        | 0.0000        | 621.7209          | 621.7209          | 0.0306        | 0.0000        | 622.3624          |
| <b>Total</b> | <b>1.4676</b> | <b>1.8094</b> | <b>5.4733</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0269</b> | <b>0.8694</b> | <b>0.2263</b>  | <b>0.0248</b> | <b>0.2511</b> | <b>0.0000</b> | <b>1,010.7315</b> | <b>1,010.7315</b> | <b>0.0335</b> | <b>0.0000</b> | <b>1,011.4345</b> |

#### Mitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7800e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 591.9242        | 591.9242        | 0.1402        | 0.0000        | 594.8681        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7800e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>591.9242</b> | <b>591.9242</b> | <b>0.1402</b> | <b>0.0000</b> | <b>594.8681</b> |

**3.2 Building Construction - 2018****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.3334        | 1.4716        | 2.3070        | 4.4200e-003   | 0.1214        | 0.0217        | 0.1430        | 0.0347         | 0.0199        | 0.0546        | 0.0000        | 389.0106          | 389.0106          | 2.9300e-003   | 0.0000        | 389.0720          |
| Worker       | 1.1342        | 0.3378        | 3.1663        | 8.8700e-003   | 0.7210        | 5.2700e-003   | 0.7263        | 0.1916         | 4.8800e-003   | 0.1965        | 0.0000        | 621.7209          | 621.7209          | 0.0306        | 0.0000        | 622.3624          |
| <b>Total</b> | <b>1.4676</b> | <b>1.8094</b> | <b>5.4733</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0269</b> | <b>0.8694</b> | <b>0.2263</b>  | <b>0.0248</b> | <b>0.2511</b> | <b>0.0000</b> | <b>1,010.7315</b> | <b>1,010.7315</b> | <b>0.0335</b> | <b>0.0000</b> | <b>1,011.4345</b> |

**3.2 Building Construction - 2019****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.6166        | 5.2306        | 4.2855        | 6.7800e-003        |               | 0.3162        | 0.3162        |                | 0.2987        | 0.2987        | 0.0000        | 585.8508        | 585.8508        | 0.1370        | 0.0000        | 588.7284        |
| <b>Total</b> | <b>0.6166</b> | <b>5.2306</b> | <b>4.2855</b> | <b>6.7800e-003</b> |               | <b>0.3162</b> | <b>0.3162</b> |                | <b>0.2987</b> | <b>0.2987</b> | <b>0.0000</b> | <b>585.8508</b> | <b>585.8508</b> | <b>0.1370</b> | <b>0.0000</b> | <b>588.7284</b> |

### 3.2 Building Construction - 2019

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.3097        | 1.3392        | 2.2018        | 4.4100e-003   | 0.1214        | 0.0201        | 0.1415        | 0.0347         | 0.0185        | 0.0532        | 0.0000        | 382.3076        | 382.3076        | 2.8600e-003   | 0.0000        | 382.3675        |
| Worker       | 1.0750        | 0.3122        | 2.9124        | 8.8700e-003   | 0.7210        | 5.2300e-003   | 0.7263        | 0.1916         | 4.8500e-003   | 0.1965        | 0.0000        | 599.2293        | 599.2293        | 0.0287        | 0.0000        | 599.8327        |
| <b>Total</b> | <b>1.3846</b> | <b>1.6514</b> | <b>5.1142</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0254</b> | <b>0.8678</b> | <b>0.2263</b>  | <b>0.0234</b> | <b>0.2497</b> | <b>0.0000</b> | <b>981.5369</b> | <b>981.5369</b> | <b>0.0316</b> | <b>0.0000</b> | <b>982.2002</b> |

#### Mitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7800e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 585.8501        | 585.8501        | 0.1370        | 0.0000        | 588.7277        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7800e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>585.8501</b> | <b>585.8501</b> | <b>0.1370</b> | <b>0.0000</b> | <b>588.7277</b> |

**3.2 Building Construction - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.3097        | 1.3392        | 2.2018        | 4.4100e-003   | 0.1214        | 0.0201        | 0.1415        | 0.0347         | 0.0185        | 0.0532        | 0.0000        | 382.3076        | 382.3076        | 2.8600e-003   | 0.0000        | 382.3675        |
| Worker       | 1.0750        | 0.3122        | 2.9124        | 8.8700e-003   | 0.7210        | 5.2300e-003   | 0.7263        | 0.1916         | 4.8500e-003   | 0.1965        | 0.0000        | 599.2293        | 599.2293        | 0.0287        | 0.0000        | 599.8327        |
| <b>Total</b> | <b>1.3846</b> | <b>1.6514</b> | <b>5.1142</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0254</b> | <b>0.8678</b> | <b>0.2263</b>  | <b>0.0234</b> | <b>0.2497</b> | <b>0.0000</b> | <b>981.5369</b> | <b>981.5369</b> | <b>0.0316</b> | <b>0.0000</b> | <b>982.2002</b> |

**3.2 Building Construction - 2020****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.5551        | 4.7946        | 4.2194        | 6.8000e-003        |               | 0.2750        | 0.2750        |                | 0.2599        | 0.2599        | 0.0000        | 580.0917        | 580.0917        | 0.1351        | 0.0000        | 582.9282        |
| <b>Total</b> | <b>0.5551</b> | <b>4.7946</b> | <b>4.2194</b> | <b>6.8000e-003</b> |               | <b>0.2750</b> | <b>0.2750</b> |                | <b>0.2599</b> | <b>0.2599</b> | <b>0.0000</b> | <b>580.0917</b> | <b>580.0917</b> | <b>0.1351</b> | <b>0.0000</b> | <b>582.9282</b> |

**3.2 Building Construction - 2020****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2943        | 1.1448        | 2.1347        | 4.4200e-003   | 0.1218        | 0.0181        | 0.1399        | 0.0349         | 0.0167        | 0.0515        | 0.0000        | 374.9964        | 374.9964        | 2.7700e-003   | 0.0000        | 375.0547        |
| Worker       | 1.0324        | 0.2928        | 2.7323        | 8.9000e-003   | 0.7238        | 5.2600e-003   | 0.7291        | 0.1923         | 4.8800e-003   | 0.1972        | 0.0000        | 577.2860        | 577.2860        | 0.0274        | 0.0000        | 577.8620        |
| <b>Total</b> | <b>1.3268</b> | <b>1.4376</b> | <b>4.8669</b> | <b>0.0133</b> | <b>0.8456</b> | <b>0.0234</b> | <b>0.8690</b> | <b>0.2272</b>  | <b>0.0215</b> | <b>0.2487</b> | <b>0.0000</b> | <b>952.2824</b> | <b>952.2824</b> | <b>0.0302</b> | <b>0.0000</b> | <b>952.9167</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2702        | 5.8284        | 4.4431        | 6.8000e-003        |               | 0.2278        | 0.2278        |                | 0.2278        | 0.2278        | 0.0000        | 580.0911        | 580.0911        | 0.1351        | 0.0000        | 582.9275        |
| <b>Total</b> | <b>0.2702</b> | <b>5.8284</b> | <b>4.4431</b> | <b>6.8000e-003</b> |               | <b>0.2278</b> | <b>0.2278</b> |                | <b>0.2278</b> | <b>0.2278</b> | <b>0.0000</b> | <b>580.0911</b> | <b>580.0911</b> | <b>0.1351</b> | <b>0.0000</b> | <b>582.9275</b> |

**3.2 Building Construction - 2020****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2943        | 1.1448        | 2.1347        | 4.4200e-003   | 0.1218        | 0.0181        | 0.1399        | 0.0349         | 0.0167        | 0.0515        | 0.0000        | 374.9964        | 374.9964        | 2.7700e-003   | 0.0000        | 375.0547        |
| Worker       | 1.0324        | 0.2928        | 2.7323        | 8.9000e-003   | 0.7238        | 5.2600e-003   | 0.7291        | 0.1923         | 4.8800e-003   | 0.1972        | 0.0000        | 577.2860        | 577.2860        | 0.0274        | 0.0000        | 577.8620        |
| <b>Total</b> | <b>1.3268</b> | <b>1.4376</b> | <b>4.8669</b> | <b>0.0133</b> | <b>0.8456</b> | <b>0.0234</b> | <b>0.8690</b> | <b>0.2272</b>  | <b>0.0215</b> | <b>0.2487</b> | <b>0.0000</b> | <b>952.2824</b> | <b>952.2824</b> | <b>0.0302</b> | <b>0.0000</b> | <b>952.9167</b> |

**3.2 Building Construction - 2021****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.4953        | 4.3524        | 4.1301        | 6.7800e-003        |               | 0.2352        | 0.2352        |                | 0.2222        | 0.2222        | 0.0000        | 577.9355        | 577.9355        | 0.1325        | 0.0000        | 580.7179        |
| <b>Total</b> | <b>0.4953</b> | <b>4.3524</b> | <b>4.1301</b> | <b>6.7800e-003</b> |               | <b>0.2352</b> | <b>0.2352</b> |                | <b>0.2222</b> | <b>0.2222</b> | <b>0.0000</b> | <b>577.9355</b> | <b>577.9355</b> | <b>0.1325</b> | <b>0.0000</b> | <b>580.7179</b> |

**3.2 Building Construction - 2021****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2739        | 0.9351        | 2.0415        | 4.4000e-003   | 0.1214        | 0.0162        | 0.1376        | 0.0347         | 0.0149        | 0.0497        | 0.0000        | 372.9690        | 372.9690        | 2.7500e-003   | 0.0000        | 373.0268        |
| Worker       | 0.9859        | 0.2738        | 2.5804        | 8.8800e-003   | 0.7210        | 5.3200e-003   | 0.7264        | 0.1916         | 4.9400e-003   | 0.1965        | 0.0000        | 565.4884        | 565.4884        | 0.0263        | 0.0000        | 566.0406        |
| <b>Total</b> | <b>1.2598</b> | <b>1.2089</b> | <b>4.6219</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0216</b> | <b>0.8640</b> | <b>0.2263</b>  | <b>0.0199</b> | <b>0.2462</b> | <b>0.0000</b> | <b>938.4574</b> | <b>938.4574</b> | <b>0.0290</b> | <b>0.0000</b> | <b>939.0674</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7800e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 577.9348        | 577.9348        | 0.1325        | 0.0000        | 580.7172        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7800e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>577.9348</b> | <b>577.9348</b> | <b>0.1325</b> | <b>0.0000</b> | <b>580.7172</b> |

**3.2 Building Construction - 2021****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2739        | 0.9351        | 2.0415        | 4.4000e-003   | 0.1214        | 0.0162        | 0.1376        | 0.0347         | 0.0149        | 0.0497        | 0.0000        | 372.9690        | 372.9690        | 2.7500e-003   | 0.0000        | 373.0268        |
| Worker       | 0.9859        | 0.2738        | 2.5804        | 8.8800e-003   | 0.7210        | 5.3200e-003   | 0.7264        | 0.1916         | 4.9400e-003   | 0.1965        | 0.0000        | 565.4884        | 565.4884        | 0.0263        | 0.0000        | 566.0406        |
| <b>Total</b> | <b>1.2598</b> | <b>1.2089</b> | <b>4.6219</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0216</b> | <b>0.8640</b> | <b>0.2263</b>  | <b>0.0199</b> | <b>0.2462</b> | <b>0.0000</b> | <b>938.4574</b> | <b>938.4574</b> | <b>0.0290</b> | <b>0.0000</b> | <b>939.0674</b> |

**3.2 Building Construction - 2022****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.4443        | 3.9019        | 4.0611        | 6.7500e-003        |               | 0.1985        | 0.1985        |                | 0.1876        | 0.1876        | 0.0000        | 575.9145        | 575.9145        | 0.1308        | 0.0000        | 578.6605        |
| <b>Total</b> | <b>0.4443</b> | <b>3.9019</b> | <b>4.0611</b> | <b>6.7500e-003</b> |               | <b>0.1985</b> | <b>0.1985</b> |                | <b>0.1876</b> | <b>0.1876</b> | <b>0.0000</b> | <b>575.9145</b> | <b>575.9145</b> | <b>0.1308</b> | <b>0.0000</b> | <b>578.6605</b> |

**3.2 Building Construction - 2022****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2597        | 0.8182        | 1.9539        | 4.3700e-003   | 0.1209        | 0.0159        | 0.1368        | 0.0346         | 0.0146        | 0.0492        | 0.0000        | 371.1558        | 371.1558        | 2.8000e-003   | 0.0000        | 371.2146        |
| Worker       | 0.9428        | 0.2577        | 2.4257        | 8.8500e-003   | 0.7183        | 5.3400e-003   | 0.7236        | 0.1909         | 4.9500e-003   | 0.1958        | 0.0000        | 553.9410        | 553.9410        | 0.0251        | 0.0000        | 554.4686        |
| <b>Total</b> | <b>1.2025</b> | <b>1.0759</b> | <b>4.3797</b> | <b>0.0132</b> | <b>0.8392</b> | <b>0.0213</b> | <b>0.8604</b> | <b>0.2255</b>  | <b>0.0196</b> | <b>0.2451</b> | <b>0.0000</b> | <b>925.0968</b> | <b>925.0968</b> | <b>0.0279</b> | <b>0.0000</b> | <b>925.6832</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2681        | 5.7839        | 4.4092        | 6.7500e-003        |               | 0.2260        | 0.2260        |                | 0.2260        | 0.2260        | 0.0000        | 575.9138        | 575.9138        | 0.1308        | 0.0000        | 578.6598        |
| <b>Total</b> | <b>0.2681</b> | <b>5.7839</b> | <b>4.4092</b> | <b>6.7500e-003</b> |               | <b>0.2260</b> | <b>0.2260</b> |                | <b>0.2260</b> | <b>0.2260</b> | <b>0.0000</b> | <b>575.9138</b> | <b>575.9138</b> | <b>0.1308</b> | <b>0.0000</b> | <b>578.6598</b> |

**3.2 Building Construction - 2022****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2597        | 0.8182        | 1.9539        | 4.3700e-003   | 0.1209        | 0.0159        | 0.1368        | 0.0346         | 0.0146        | 0.0492        | 0.0000        | 371.1558        | 371.1558        | 2.8000e-003   | 0.0000        | 371.2146        |
| Worker       | 0.9428        | 0.2577        | 2.4257        | 8.8500e-003   | 0.7183        | 5.3400e-003   | 0.7236        | 0.1909         | 4.9500e-003   | 0.1958        | 0.0000        | 553.9410        | 553.9410        | 0.0251        | 0.0000        | 554.4686        |
| <b>Total</b> | <b>1.2025</b> | <b>1.0759</b> | <b>4.3797</b> | <b>0.0132</b> | <b>0.8392</b> | <b>0.0213</b> | <b>0.8604</b> | <b>0.2255</b>  | <b>0.0196</b> | <b>0.2451</b> | <b>0.0000</b> | <b>925.0968</b> | <b>925.0968</b> | <b>0.0279</b> | <b>0.0000</b> | <b>925.6832</b> |

**3.2 Building Construction - 2023****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.4097        | 3.6065        | 4.0299        | 6.7600e-003        |               | 0.1720        | 0.1720        |                | 0.1626        | 0.1626        | 0.0000        | 576.0864        | 576.0864        | 0.1295        | 0.0000        | 578.8064        |
| <b>Total</b> | <b>0.4097</b> | <b>3.6065</b> | <b>4.0299</b> | <b>6.7600e-003</b> |               | <b>0.1720</b> | <b>0.1720</b> |                | <b>0.1626</b> | <b>0.1626</b> | <b>0.0000</b> | <b>576.0864</b> | <b>576.0864</b> | <b>0.1295</b> | <b>0.0000</b> | <b>578.8064</b> |

**3.2 Building Construction - 2023****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2450        | 0.7122        | 1.8739        | 4.3600e-003   | 0.1209        | 0.0155        | 0.1365        | 0.0346         | 0.0143        | 0.0489        | 0.0000        | 370.3248        | 370.3248        | 2.6300e-003   | 0.0000        | 370.3800        |
| Worker       | 0.9063        | 0.2443        | 2.2959        | 8.8500e-003   | 0.7183        | 5.3800e-003   | 0.7237        | 0.1909         | 4.9900e-003   | 0.1959        | 0.0000        | 545.5712        | 545.5712        | 0.0242        | 0.0000        | 546.0796        |
| <b>Total</b> | <b>1.1513</b> | <b>0.9565</b> | <b>4.1698</b> | <b>0.0132</b> | <b>0.8392</b> | <b>0.0209</b> | <b>0.8601</b> | <b>0.2255</b>  | <b>0.0193</b> | <b>0.2447</b> | <b>0.0000</b> | <b>915.8960</b> | <b>915.8960</b> | <b>0.0268</b> | <b>0.0000</b> | <b>916.4596</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2681        | 5.7839        | 4.4092        | 6.7600e-003        |               | 0.2260        | 0.2260        |                | 0.2260        | 0.2260        | 0.0000        | 576.0858        | 576.0858        | 0.1295        | 0.0000        | 578.8057        |
| <b>Total</b> | <b>0.2681</b> | <b>5.7839</b> | <b>4.4092</b> | <b>6.7600e-003</b> |               | <b>0.2260</b> | <b>0.2260</b> |                | <b>0.2260</b> | <b>0.2260</b> | <b>0.0000</b> | <b>576.0858</b> | <b>576.0858</b> | <b>0.1295</b> | <b>0.0000</b> | <b>578.8057</b> |

**3.2 Building Construction - 2023****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2450        | 0.7122        | 1.8739        | 4.3600e-003   | 0.1209        | 0.0155        | 0.1365        | 0.0346         | 0.0143        | 0.0489        | 0.0000        | 370.3248        | 370.3248        | 2.6300e-003   | 0.0000        | 370.3800        |
| Worker       | 0.9063        | 0.2443        | 2.2959        | 8.8500e-003   | 0.7183        | 5.3800e-003   | 0.7237        | 0.1909         | 4.9900e-003   | 0.1959        | 0.0000        | 545.5712        | 545.5712        | 0.0242        | 0.0000        | 546.0796        |
| <b>Total</b> | <b>1.1513</b> | <b>0.9565</b> | <b>4.1698</b> | <b>0.0132</b> | <b>0.8392</b> | <b>0.0209</b> | <b>0.8601</b> | <b>0.2255</b>  | <b>0.0193</b> | <b>0.2447</b> | <b>0.0000</b> | <b>915.8960</b> | <b>915.8960</b> | <b>0.0268</b> | <b>0.0000</b> | <b>916.4596</b> |

**3.2 Building Construction - 2024****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.3860        | 3.4040        | 4.0393        | 6.8100e-003        |               | 0.1519        | 0.1519        |                | 0.1435        | 0.1435        | 0.0000        | 580.6144        | 580.6144        | 0.1295        | 0.0000        | 583.3340        |
| <b>Total</b> | <b>0.3860</b> | <b>3.4040</b> | <b>4.0393</b> | <b>6.8100e-003</b> |               | <b>0.1519</b> | <b>0.1519</b> |                | <b>0.1435</b> | <b>0.1435</b> | <b>0.0000</b> | <b>580.6144</b> | <b>580.6144</b> | <b>0.1295</b> | <b>0.0000</b> | <b>583.3340</b> |

**3.2 Building Construction - 2024****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2267        | 0.7076        | 1.7863        | 4.3900e-003   | 0.1219        | 0.0157        | 0.1376        | 0.0349         | 0.0145        | 0.0493        | 0.0000        | 373.1494        | 373.1494        | 2.6600e-003   | 0.0000        | 373.2052        |
| Worker       | 0.8787        | 0.2344        | 2.2033        | 8.9100e-003   | 0.7238        | 5.4600e-003   | 0.7293        | 0.1923         | 5.0700e-003   | 0.1974        | 0.0000        | 542.2714        | 542.2714        | 0.0236        | 0.0000        | 542.7667        |
| <b>Total</b> | <b>1.1054</b> | <b>0.9420</b> | <b>3.9897</b> | <b>0.0133</b> | <b>0.8457</b> | <b>0.0212</b> | <b>0.8668</b> | <b>0.2272</b>  | <b>0.0195</b> | <b>0.2467</b> | <b>0.0000</b> | <b>915.4208</b> | <b>915.4208</b> | <b>0.0262</b> | <b>0.0000</b> | <b>915.9719</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2702        | 5.8284        | 4.4431        | 6.8100e-003        |               | 0.2278        | 0.2278        |                | 0.2278        | 0.2278        | 0.0000        | 580.6137        | 580.6137        | 0.1295        | 0.0000        | 583.3333        |
| <b>Total</b> | <b>0.2702</b> | <b>5.8284</b> | <b>4.4431</b> | <b>6.8100e-003</b> |               | <b>0.2278</b> | <b>0.2278</b> |                | <b>0.2278</b> | <b>0.2278</b> | <b>0.0000</b> | <b>580.6137</b> | <b>580.6137</b> | <b>0.1295</b> | <b>0.0000</b> | <b>583.3333</b> |

**3.2 Building Construction - 2024****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2267        | 0.7076        | 1.7863        | 4.3900e-003   | 0.1219        | 0.0157        | 0.1376        | 0.0349         | 0.0145        | 0.0493        | 0.0000        | 373.1494        | 373.1494        | 2.6600e-003   | 0.0000        | 373.2052        |
| Worker       | 0.8787        | 0.2344        | 2.2033        | 8.9100e-003   | 0.7238        | 5.4600e-003   | 0.7293        | 0.1923         | 5.0700e-003   | 0.1974        | 0.0000        | 542.2714        | 542.2714        | 0.0236        | 0.0000        | 542.7667        |
| <b>Total</b> | <b>1.1054</b> | <b>0.9420</b> | <b>3.9897</b> | <b>0.0133</b> | <b>0.8457</b> | <b>0.0212</b> | <b>0.8668</b> | <b>0.2272</b>  | <b>0.0195</b> | <b>0.2467</b> | <b>0.0000</b> | <b>915.4208</b> | <b>915.4208</b> | <b>0.0262</b> | <b>0.0000</b> | <b>915.9719</b> |

**3.2 Building Construction - 2025****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.3576        | 3.1548        | 4.0025        | 6.7900e-003        |               | 0.1305        | 0.1305        |                | 0.1233        | 0.1233        | 0.0000        | 578.5519        | 578.5519        | 0.1280        | 0.0000        | 581.2404        |
| <b>Total</b> | <b>0.3576</b> | <b>3.1548</b> | <b>4.0025</b> | <b>6.7900e-003</b> |               | <b>0.1305</b> | <b>0.1305</b> |                | <b>0.1233</b> | <b>0.1233</b> | <b>0.0000</b> | <b>578.5519</b> | <b>578.5519</b> | <b>0.1280</b> | <b>0.0000</b> | <b>581.2404</b> |

### 3.2 Building Construction - 2025

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2201        | 0.6975        | 1.7326        | 4.3800e-003   | 0.1214        | 0.0157        | 0.1371        | 0.0347         | 0.0144        | 0.0492        | 0.0000        | 371.7567        | 371.7567        | 2.6600e-003   | 0.0000        | 371.8125        |
| Worker       | 0.8457        | 0.2238        | 2.1040        | 8.8800e-003   | 0.7210        | 5.4900e-003   | 0.7265        | 0.1916         | 5.0900e-003   | 0.1967        | 0.0000        | 533.7100        | 533.7100        | 0.0228        | 0.0000        | 534.1893        |
| <b>Total</b> | <b>1.0658</b> | <b>0.9214</b> | <b>3.8366</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0212</b> | <b>0.8636</b> | <b>0.2263</b>  | <b>0.0195</b> | <b>0.2459</b> | <b>0.0000</b> | <b>905.4667</b> | <b>905.4667</b> | <b>0.0255</b> | <b>0.0000</b> | <b>906.0018</b> |

#### Mitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2692        | 5.8061        | 4.4262        | 6.7900e-003        |               | 0.2269        | 0.2269        |                | 0.2269        | 0.2269        | 0.0000        | 578.5512        | 578.5512        | 0.1280        | 0.0000        | 581.2397        |
| <b>Total</b> | <b>0.2692</b> | <b>5.8061</b> | <b>4.4262</b> | <b>6.7900e-003</b> |               | <b>0.2269</b> | <b>0.2269</b> |                | <b>0.2269</b> | <b>0.2269</b> | <b>0.0000</b> | <b>578.5512</b> | <b>578.5512</b> | <b>0.1280</b> | <b>0.0000</b> | <b>581.2397</b> |

### 3.2 Building Construction - 2025

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Vendor       | 0.2201        | 0.6975        | 1.7326        | 4.3800e-003   | 0.1214        | 0.0157        | 0.1371        | 0.0347         | 0.0144        | 0.0492        | 0.0000        | 371.7567        | 371.7567        | 2.6600e-003   | 0.0000        | 371.8125        |
| Worker       | 0.8457        | 0.2238        | 2.1040        | 8.8800e-003   | 0.7210        | 5.4900e-003   | 0.7265        | 0.1916         | 5.0900e-003   | 0.1967        | 0.0000        | 533.7100        | 533.7100        | 0.0228        | 0.0000        | 534.1893        |
| <b>Total</b> | <b>1.0658</b> | <b>0.9214</b> | <b>3.8366</b> | <b>0.0133</b> | <b>0.8424</b> | <b>0.0212</b> | <b>0.8636</b> | <b>0.2263</b>  | <b>0.0195</b> | <b>0.2459</b> | <b>0.0000</b> | <b>905.4667</b> | <b>905.4667</b> | <b>0.0255</b> | <b>0.0000</b> | <b>906.0018</b> |

### 3.3 Architectural Coating - 2014

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.6130        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0486        | 0.3027        | 0.2095        | 3.2000e-004        |               | 0.0267        | 0.0267        |                | 0.0267        | 0.0267        | 0.0000        | 27.8305        | 27.8305        | 3.9700e-003        | 0.0000        | 27.9138        |
| <b>Total</b>    | <b>0.6616</b> | <b>0.3027</b> | <b>0.2095</b> | <b>3.2000e-004</b> |               | <b>0.0267</b> | <b>0.0267</b> |                | <b>0.0267</b> | <b>0.0267</b> | <b>0.0000</b> | <b>27.8305</b> | <b>27.8305</b> | <b>3.9700e-003</b> | <b>0.0000</b> | <b>27.9138</b> |

### 3.3 Architectural Coating - 2014

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2531        | 0.0833        | 0.8020        | 1.4900e-003        | 0.1206        | 1.0400e-003        | 0.1217        | 0.0321         | 9.5000e-004        | 0.0330        | 0.0000        | 120.5393        | 120.5393        | 7.0200e-003        | 0.0000        | 120.6868        |
| <b>Total</b> | <b>0.2531</b> | <b>0.0833</b> | <b>0.8020</b> | <b>1.4900e-003</b> | <b>0.1206</b> | <b>1.0400e-003</b> | <b>0.1217</b> | <b>0.0321</b>  | <b>9.5000e-004</b> | <b>0.0330</b> | <b>0.0000</b> | <b>120.5393</b> | <b>120.5393</b> | <b>7.0200e-003</b> | <b>0.0000</b> | <b>120.6868</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.6130        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0124        | 0.2564        | 0.1997        | 3.2000e-004        |               | 0.0104        | 0.0104        |                | 0.0104        | 0.0104        | 0.0000        | 27.8304        | 27.8304        | 3.9700e-003        | 0.0000        | 27.9137        |
| <b>Total</b>    | <b>0.6254</b> | <b>0.2564</b> | <b>0.1997</b> | <b>3.2000e-004</b> |               | <b>0.0104</b> | <b>0.0104</b> |                | <b>0.0104</b> | <b>0.0104</b> | <b>0.0000</b> | <b>27.8304</b> | <b>27.8304</b> | <b>3.9700e-003</b> | <b>0.0000</b> | <b>27.9137</b> |

### 3.3 Architectural Coating - 2014

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2531        | 0.0833        | 0.8020        | 1.4900e-003        | 0.1206        | 1.0400e-003        | 0.1217        | 0.0321         | 9.5000e-004        | 0.0330        | 0.0000        | 120.5393        | 120.5393        | 7.0200e-003        | 0.0000        | 120.6868        |
| <b>Total</b> | <b>0.2531</b> | <b>0.0833</b> | <b>0.8020</b> | <b>1.4900e-003</b> | <b>0.1206</b> | <b>1.0400e-003</b> | <b>0.1217</b> | <b>0.0321</b>  | <b>9.5000e-004</b> | <b>0.0330</b> | <b>0.0000</b> | <b>120.5393</b> | <b>120.5393</b> | <b>7.0200e-003</b> | <b>0.0000</b> | <b>120.6868</b> |

### 3.3 Architectural Coating - 2015

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0531        | 0.3354        | 0.2482        | 3.9000e-004        |               | 0.0288        | 0.0288        |                | 0.0288        | 0.0288        | 0.0000        | 33.3200        | 33.3200        | 4.3400e-003        | 0.0000        | 33.4111        |
| <b>Total</b>    | <b>0.7870</b> | <b>0.3354</b> | <b>0.2482</b> | <b>3.9000e-004</b> |               | <b>0.0288</b> | <b>0.0288</b> |                | <b>0.0288</b> | <b>0.0288</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>4.3400e-003</b> | <b>0.0000</b> | <b>33.4111</b> |

### 3.3 Architectural Coating - 2015

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2814        | 0.0899        | 0.8621        | 1.7800e-003        | 0.1444        | 1.1600e-003        | 0.1456        | 0.0384         | 1.0600e-003        | 0.0394        | 0.0000        | 139.4658        | 139.4658        | 7.7100e-003        | 0.0000        | 139.6277        |
| <b>Total</b> | <b>0.2814</b> | <b>0.0899</b> | <b>0.8621</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.1600e-003</b> | <b>0.1456</b> | <b>0.0384</b>  | <b>1.0600e-003</b> | <b>0.0394</b> | <b>0.0000</b> | <b>139.4658</b> | <b>139.4658</b> | <b>7.7100e-003</b> | <b>0.0000</b> | <b>139.6277</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3070        | 0.2391        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.3199        | 33.3199        | 4.3400e-003        | 0.0000        | 33.4110        |
| <b>Total</b>    | <b>0.7488</b> | <b>0.3070</b> | <b>0.2391</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.3199</b> | <b>33.3199</b> | <b>4.3400e-003</b> | <b>0.0000</b> | <b>33.4110</b> |

### 3.3 Architectural Coating - 2015

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2814        | 0.0899        | 0.8621        | 1.7800e-003        | 0.1444        | 1.1600e-003        | 0.1456        | 0.0384         | 1.0600e-003        | 0.0394        | 0.0000        | 139.4658        | 139.4658        | 7.7100e-003        | 0.0000        | 139.6277        |
| <b>Total</b> | <b>0.2814</b> | <b>0.0899</b> | <b>0.8621</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.1600e-003</b> | <b>0.1456</b> | <b>0.0384</b>  | <b>1.0600e-003</b> | <b>0.0394</b> | <b>0.0000</b> | <b>139.4658</b> | <b>139.4658</b> | <b>7.7100e-003</b> | <b>0.0000</b> | <b>139.6277</b> |

### 3.3 Architectural Coating - 2016

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0481        | 0.3096        | 0.2459        | 3.9000e-004        |               | 0.0257        | 0.0257        |                | 0.0257        | 0.0257        | 0.0000        | 33.3200        | 33.3200        | 3.9300e-003        | 0.0000        | 33.4025        |
| <b>Total</b>    | <b>0.7820</b> | <b>0.3096</b> | <b>0.2459</b> | <b>3.9000e-004</b> |               | <b>0.0257</b> | <b>0.0257</b> |                | <b>0.0257</b> | <b>0.0257</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>3.9300e-003</b> | <b>0.0000</b> | <b>33.4025</b> |

### 3.3 Architectural Coating - 2016

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2622        | 0.0816        | 0.7778        | 1.7800e-003        | 0.1444        | 1.1100e-003        | 0.1455        | 0.0384         | 1.0200e-003        | 0.0394        | 0.0000        | 134.5831        | 134.5831        | 7.1100e-003        | 0.0000        | 134.7324        |
| <b>Total</b> | <b>0.2622</b> | <b>0.0816</b> | <b>0.7778</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.1100e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>1.0200e-003</b> | <b>0.0394</b> | <b>0.0000</b> | <b>134.5831</b> | <b>134.5831</b> | <b>7.1100e-003</b> | <b>0.0000</b> | <b>134.7324</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3070        | 0.2391        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.3199        | 33.3199        | 3.9300e-003        | 0.0000        | 33.4024        |
| <b>Total</b>    | <b>0.7488</b> | <b>0.3070</b> | <b>0.2391</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.3199</b> | <b>33.3199</b> | <b>3.9300e-003</b> | <b>0.0000</b> | <b>33.4024</b> |

### 3.3 Architectural Coating - 2016

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2622        | 0.0816        | 0.7778        | 1.7800e-003        | 0.1444        | 1.1100e-003        | 0.1455        | 0.0384         | 1.0200e-003        | 0.0394        | 0.0000        | 134.5831        | 134.5831        | 7.1100e-003        | 0.0000        | 134.7324        |
| <b>Total</b> | <b>0.2622</b> | <b>0.0816</b> | <b>0.7778</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.1100e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>1.0200e-003</b> | <b>0.0394</b> | <b>0.0000</b> | <b>134.5831</b> | <b>134.5831</b> | <b>7.1100e-003</b> | <b>0.0000</b> | <b>134.7324</b> |

### 3.3 Architectural Coating - 2017

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7311        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0432        | 0.2841        | 0.2429        | 3.9000e-004        |               | 0.0225        | 0.0225        |                | 0.0225        | 0.0225        | 0.0000        | 33.1923        | 33.1923        | 3.5000e-003        | 0.0000        | 33.2659        |
| <b>Total</b>    | <b>0.7743</b> | <b>0.2841</b> | <b>0.2429</b> | <b>3.9000e-004</b> |               | <b>0.0225</b> | <b>0.0225</b> |                | <b>0.0225</b> | <b>0.0225</b> | <b>0.0000</b> | <b>33.1923</b> | <b>33.1923</b> | <b>3.5000e-003</b> | <b>0.0000</b> | <b>33.2659</b> |

### 3.3 Architectural Coating - 2017

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2428        | 0.0739        | 0.6984        | 1.7700e-003        | 0.1439        | 1.0700e-003        | 0.1449        | 0.0382         | 9.9000e-004        | 0.0392        | 0.0000        | 128.8875        | 128.8875        | 6.5500e-003        | 0.0000        | 129.0251        |
| <b>Total</b> | <b>0.2428</b> | <b>0.0739</b> | <b>0.6984</b> | <b>1.7700e-003</b> | <b>0.1439</b> | <b>1.0700e-003</b> | <b>0.1449</b> | <b>0.0382</b>  | <b>9.9000e-004</b> | <b>0.0392</b> | <b>0.0000</b> | <b>128.8875</b> | <b>128.8875</b> | <b>6.5500e-003</b> | <b>0.0000</b> | <b>129.0251</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7311        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0148        | 0.3058        | 0.2382        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.1923        | 33.1923        | 3.5000e-003        | 0.0000        | 33.2659        |
| <b>Total</b>    | <b>0.7459</b> | <b>0.3058</b> | <b>0.2382</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.1923</b> | <b>33.1923</b> | <b>3.5000e-003</b> | <b>0.0000</b> | <b>33.2659</b> |

### 3.3 Architectural Coating - 2017

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2428        | 0.0739        | 0.6984        | 1.7700e-003        | 0.1439        | 1.0700e-003        | 0.1449        | 0.0382         | 9.9000e-004        | 0.0392        | 0.0000        | 128.8875        | 128.8875        | 6.5500e-003        | 0.0000        | 129.0251        |
| <b>Total</b> | <b>0.2428</b> | <b>0.0739</b> | <b>0.6984</b> | <b>1.7700e-003</b> | <b>0.1439</b> | <b>1.0700e-003</b> | <b>0.1449</b> | <b>0.0382</b>  | <b>9.9000e-004</b> | <b>0.0392</b> | <b>0.0000</b> | <b>128.8875</b> | <b>128.8875</b> | <b>6.5500e-003</b> | <b>0.0000</b> | <b>129.0251</b> |

### 3.3 Architectural Coating - 2018

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0390        | 0.2618        | 0.2420        | 3.9000e-004        |               | 0.0197        | 0.0197        |                | 0.0197        | 0.0197        | 0.0000        | 33.3200        | 33.3200        | 3.1700e-003        | 0.0000        | 33.3865        |
| <b>Total</b>    | <b>0.7729</b> | <b>0.2618</b> | <b>0.2420</b> | <b>3.9000e-004</b> |               | <b>0.0197</b> | <b>0.0197</b> |                | <b>0.0197</b> | <b>0.0197</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>3.1700e-003</b> | <b>0.0000</b> | <b>33.3865</b> |

### 3.3 Architectural Coating - 2018

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2272        | 0.0677        | 0.6342        | 1.7800e-003        | 0.1444        | 1.0600e-003        | 0.1455        | 0.0384         | 9.8000e-004        | 0.0394        | 0.0000        | 124.5247        | 124.5247        | 6.1200e-003        | 0.0000        | 124.6532        |
| <b>Total</b> | <b>0.2272</b> | <b>0.0677</b> | <b>0.6342</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.0600e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>9.8000e-004</b> | <b>0.0394</b> | <b>0.0000</b> | <b>124.5247</b> | <b>124.5247</b> | <b>6.1200e-003</b> | <b>0.0000</b> | <b>124.6532</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3070        | 0.2391        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.3200        | 33.3200        | 3.1700e-003        | 0.0000        | 33.3865        |
| <b>Total</b>    | <b>0.7488</b> | <b>0.3070</b> | <b>0.2391</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>3.1700e-003</b> | <b>0.0000</b> | <b>33.3865</b> |

### 3.3 Architectural Coating - 2018

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2272        | 0.0677        | 0.6342        | 1.7800e-003        | 0.1444        | 1.0600e-003        | 0.1455        | 0.0384         | 9.8000e-004        | 0.0394        | 0.0000        | 124.5247        | 124.5247        | 6.1200e-003        | 0.0000        | 124.6532        |
| <b>Total</b> | <b>0.2272</b> | <b>0.0677</b> | <b>0.6342</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.0600e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>9.8000e-004</b> | <b>0.0394</b> | <b>0.0000</b> | <b>124.5247</b> | <b>124.5247</b> | <b>6.1200e-003</b> | <b>0.0000</b> | <b>124.6532</b> |

### 3.3 Architectural Coating - 2019

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0348        | 0.2395        | 0.2403        | 3.9000e-004        |               | 0.0168        | 0.0168        |                | 0.0168        | 0.0168        | 0.0000        | 33.3200        | 33.3200        | 2.8100e-003        | 0.0000        | 33.3791        |
| <b>Total</b>    | <b>0.7687</b> | <b>0.2395</b> | <b>0.2403</b> | <b>3.9000e-004</b> |               | <b>0.0168</b> | <b>0.0168</b> |                | <b>0.0168</b> | <b>0.0168</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>2.8100e-003</b> | <b>0.0000</b> | <b>33.3791</b> |

### 3.3 Architectural Coating - 2019

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2153        | 0.0625        | 0.5833        | 1.7800e-003        | 0.1444        | 1.0500e-003        | 0.1455        | 0.0384         | 9.7000e-004        | 0.0394        | 0.0000        | 120.0198        | 120.0198        | 5.7500e-003        | 0.0000        | 120.1407        |
| <b>Total</b> | <b>0.2153</b> | <b>0.0625</b> | <b>0.5833</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.0500e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>9.7000e-004</b> | <b>0.0394</b> | <b>0.0000</b> | <b>120.0198</b> | <b>120.0198</b> | <b>5.7500e-003</b> | <b>0.0000</b> | <b>120.1407</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3070        | 0.2391        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.3199        | 33.3199        | 2.8100e-003        | 0.0000        | 33.3790        |
| <b>Total</b>    | <b>0.7488</b> | <b>0.3070</b> | <b>0.2391</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.3199</b> | <b>33.3199</b> | <b>2.8100e-003</b> | <b>0.0000</b> | <b>33.3790</b> |

### 3.3 Architectural Coating - 2019

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2153        | 0.0625        | 0.5833        | 1.7800e-003        | 0.1444        | 1.0500e-003        | 0.1455        | 0.0384         | 9.7000e-004        | 0.0394        | 0.0000        | 120.0198        | 120.0198        | 5.7500e-003        | 0.0000        | 120.1407        |
| <b>Total</b> | <b>0.2153</b> | <b>0.0625</b> | <b>0.5833</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.0500e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>9.7000e-004</b> | <b>0.0394</b> | <b>0.0000</b> | <b>120.0198</b> | <b>120.0198</b> | <b>5.7500e-003</b> | <b>0.0000</b> | <b>120.1407</b> |

### 3.3 Architectural Coating - 2020

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7367        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0317        | 0.2206        | 0.2399        | 3.9000e-004        |               | 0.0145        | 0.0145        |                | 0.0145        | 0.0145        | 0.0000        | 33.4476        | 33.4476        | 2.5900e-003        | 0.0000        | 33.5020        |
| <b>Total</b>    | <b>0.7684</b> | <b>0.2206</b> | <b>0.2399</b> | <b>3.9000e-004</b> |               | <b>0.0145</b> | <b>0.0145</b> |                | <b>0.0145</b> | <b>0.0145</b> | <b>0.0000</b> | <b>33.4476</b> | <b>33.4476</b> | <b>2.5900e-003</b> | <b>0.0000</b> | <b>33.5020</b> |

### 3.3 Architectural Coating - 2020

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2068        | 0.0586        | 0.5473        | 1.7800e-003        | 0.1450        | 1.0500e-003        | 0.1460        | 0.0385         | 9.8000e-004        | 0.0395        | 0.0000        | 115.6248        | 115.6248        | 5.4900e-003        | 0.0000        | 115.7401        |
| <b>Total</b> | <b>0.2068</b> | <b>0.0586</b> | <b>0.5473</b> | <b>1.7800e-003</b> | <b>0.1450</b> | <b>1.0500e-003</b> | <b>0.1460</b> | <b>0.0385</b>  | <b>9.8000e-004</b> | <b>0.0395</b> | <b>0.0000</b> | <b>115.6248</b> | <b>115.6248</b> | <b>5.4900e-003</b> | <b>0.0000</b> | <b>115.7401</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7367        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3082        | 0.2401        | 3.9000e-004        |               | 0.0125        | 0.0125        |                | 0.0125        | 0.0125        | 0.0000        | 33.4476        | 33.4476        | 2.5900e-003        | 0.0000        | 33.5020        |
| <b>Total</b>    | <b>0.7516</b> | <b>0.3082</b> | <b>0.2401</b> | <b>3.9000e-004</b> |               | <b>0.0125</b> | <b>0.0125</b> |                | <b>0.0125</b> | <b>0.0125</b> | <b>0.0000</b> | <b>33.4476</b> | <b>33.4476</b> | <b>2.5900e-003</b> | <b>0.0000</b> | <b>33.5020</b> |

### 3.3 Architectural Coating - 2020

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.2068        | 0.0586        | 0.5473        | 1.7800e-003        | 0.1450        | 1.0500e-003        | 0.1460        | 0.0385         | 9.8000e-004        | 0.0395        | 0.0000        | 115.6248        | 115.6248        | 5.4900e-003        | 0.0000        | 115.7401        |
| <b>Total</b> | <b>0.2068</b> | <b>0.0586</b> | <b>0.5473</b> | <b>1.7800e-003</b> | <b>0.1450</b> | <b>1.0500e-003</b> | <b>0.1460</b> | <b>0.0385</b>  | <b>9.8000e-004</b> | <b>0.0395</b> | <b>0.0000</b> | <b>115.6248</b> | <b>115.6248</b> | <b>5.4900e-003</b> | <b>0.0000</b> | <b>115.7401</b> |

### 3.3 Architectural Coating - 2021

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0286        | 0.1993        | 0.2372        | 3.9000e-004        |               | 0.0123        | 0.0123        |                | 0.0123        | 0.0123        | 0.0000        | 33.3200        | 33.3200        | 2.2900e-003        | 0.0000        | 33.3680        |
| <b>Total</b>    | <b>0.7625</b> | <b>0.1993</b> | <b>0.2372</b> | <b>3.9000e-004</b> |               | <b>0.0123</b> | <b>0.0123</b> |                | <b>0.0123</b> | <b>0.0123</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>2.2900e-003</b> | <b>0.0000</b> | <b>33.3680</b> |

### 3.3 Architectural Coating - 2021

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1975        | 0.0548        | 0.5168        | 1.7800e-003        | 0.1444        | 1.0700e-003        | 0.1455        | 0.0384         | 9.9000e-004        | 0.0394        | 0.0000        | 113.2618        | 113.2618        | 5.2700e-003        | 0.0000        | 113.3724        |
| <b>Total</b> | <b>0.1975</b> | <b>0.0548</b> | <b>0.5168</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.0700e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>9.9000e-004</b> | <b>0.0394</b> | <b>0.0000</b> | <b>113.2618</b> | <b>113.2618</b> | <b>5.2700e-003</b> | <b>0.0000</b> | <b>113.3724</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3070        | 0.2391        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.3199        | 33.3199        | 2.2900e-003        | 0.0000        | 33.3679        |
| <b>Total</b>    | <b>0.7488</b> | <b>0.3070</b> | <b>0.2391</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.3199</b> | <b>33.3199</b> | <b>2.2900e-003</b> | <b>0.0000</b> | <b>33.3679</b> |

### 3.3 Architectural Coating - 2021

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1975        | 0.0548        | 0.5168        | 1.7800e-003        | 0.1444        | 1.0700e-003        | 0.1455        | 0.0384         | 9.9000e-004        | 0.0394        | 0.0000        | 113.2618        | 113.2618        | 5.2700e-003        | 0.0000        | 113.3724        |
| <b>Total</b> | <b>0.1975</b> | <b>0.0548</b> | <b>0.5168</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.0700e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>9.9000e-004</b> | <b>0.0394</b> | <b>0.0000</b> | <b>113.2618</b> | <b>113.2618</b> | <b>5.2700e-003</b> | <b>0.0000</b> | <b>113.3724</b> |

### 3.3 Architectural Coating - 2022

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7311        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0266        | 0.1831        | 0.2358        | 3.9000e-004        |               | 0.0106        | 0.0106        |                | 0.0106        | 0.0106        | 0.0000        | 33.1923        | 33.1923        | 2.1600e-003        | 0.0000        | 33.2377        |
| <b>Total</b>    | <b>0.7577</b> | <b>0.1831</b> | <b>0.2358</b> | <b>3.9000e-004</b> |               | <b>0.0106</b> | <b>0.0106</b> |                | <b>0.0106</b> | <b>0.0106</b> | <b>0.0000</b> | <b>33.1923</b> | <b>33.1923</b> | <b>2.1600e-003</b> | <b>0.0000</b> | <b>33.2377</b> |

### 3.3 Architectural Coating - 2022

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1888        | 0.0516        | 0.4859        | 1.7700e-003        | 0.1439        | 1.0700e-003        | 0.1449        | 0.0382         | 9.9000e-004        | 0.0392        | 0.0000        | 110.9490        | 110.9490        | 5.0300e-003        | 0.0000        | 111.0547        |
| <b>Total</b> | <b>0.1888</b> | <b>0.0516</b> | <b>0.4859</b> | <b>1.7700e-003</b> | <b>0.1439</b> | <b>1.0700e-003</b> | <b>0.1449</b> | <b>0.0382</b>  | <b>9.9000e-004</b> | <b>0.0392</b> | <b>0.0000</b> | <b>110.9490</b> | <b>110.9490</b> | <b>5.0300e-003</b> | <b>0.0000</b> | <b>111.0547</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7311        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0148        | 0.3058        | 0.2382        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.1923        | 33.1923        | 2.1600e-003        | 0.0000        | 33.2376        |
| <b>Total</b>    | <b>0.7459</b> | <b>0.3058</b> | <b>0.2382</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.1923</b> | <b>33.1923</b> | <b>2.1600e-003</b> | <b>0.0000</b> | <b>33.2376</b> |

### 3.3 Architectural Coating - 2022

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1888        | 0.0516        | 0.4859        | 1.7700e-003        | 0.1439        | 1.0700e-003        | 0.1449        | 0.0382         | 9.9000e-004        | 0.0392        | 0.0000        | 110.9490        | 110.9490        | 5.0300e-003        | 0.0000        | 111.0547        |
| <b>Total</b> | <b>0.1888</b> | <b>0.0516</b> | <b>0.4859</b> | <b>1.7700e-003</b> | <b>0.1439</b> | <b>1.0700e-003</b> | <b>0.1449</b> | <b>0.0382</b>  | <b>9.9000e-004</b> | <b>0.0392</b> | <b>0.0000</b> | <b>110.9490</b> | <b>110.9490</b> | <b>5.0300e-003</b> | <b>0.0000</b> | <b>111.0547</b> |

### 3.3 Architectural Coating - 2023

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7311        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0249        | 0.1694        | 0.2355        | 3.9000e-004        |               | 9.2100e-003        | 9.2100e-003        |                | 9.2100e-003        | 9.2100e-003        | 0.0000        | 33.1923        | 33.1923        | 1.9900e-003        | 0.0000        | 33.2340        |
| <b>Total</b>    | <b>0.7560</b> | <b>0.1694</b> | <b>0.2355</b> | <b>3.9000e-004</b> |               | <b>9.2100e-003</b> | <b>9.2100e-003</b> |                | <b>9.2100e-003</b> | <b>9.2100e-003</b> | <b>0.0000</b> | <b>33.1923</b> | <b>33.1923</b> | <b>1.9900e-003</b> | <b>0.0000</b> | <b>33.2340</b> |

### 3.3 Architectural Coating - 2023

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1815        | 0.0489        | 0.4599        | 1.7700e-003        | 0.1439        | 1.0800e-003        | 0.1449        | 0.0382         | 1.0000e-003        | 0.0392        | 0.0000        | 109.2726        | 109.2726        | 4.8500e-003        | 0.0000        | 109.3744        |
| <b>Total</b> | <b>0.1815</b> | <b>0.0489</b> | <b>0.4599</b> | <b>1.7700e-003</b> | <b>0.1439</b> | <b>1.0800e-003</b> | <b>0.1449</b> | <b>0.0382</b>  | <b>1.0000e-003</b> | <b>0.0392</b> | <b>0.0000</b> | <b>109.2726</b> | <b>109.2726</b> | <b>4.8500e-003</b> | <b>0.0000</b> | <b>109.3744</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7311        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0148        | 0.3058        | 0.2382        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.1923        | 33.1923        | 1.9900e-003        | 0.0000        | 33.2340        |
| <b>Total</b>    | <b>0.7459</b> | <b>0.3058</b> | <b>0.2382</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.1923</b> | <b>33.1923</b> | <b>1.9900e-003</b> | <b>0.0000</b> | <b>33.2340</b> |

### 3.3 Architectural Coating - 2023

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1815        | 0.0489        | 0.4599        | 1.7700e-003        | 0.1439        | 1.0800e-003        | 0.1449        | 0.0382         | 1.0000e-003        | 0.0392        | 0.0000        | 109.2726        | 109.2726        | 4.8500e-003        | 0.0000        | 109.3744        |
| <b>Total</b> | <b>0.1815</b> | <b>0.0489</b> | <b>0.4599</b> | <b>1.7700e-003</b> | <b>0.1439</b> | <b>1.0800e-003</b> | <b>0.1449</b> | <b>0.0382</b>  | <b>1.0000e-003</b> | <b>0.0392</b> | <b>0.0000</b> | <b>109.2726</b> | <b>109.2726</b> | <b>4.8500e-003</b> | <b>0.0000</b> | <b>109.3744</b> |

### 3.3 Architectural Coating - 2024

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7367        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0237        | 0.1597        | 0.2371        | 3.9000e-004        |               | 7.9800e-003        | 7.9800e-003        |                | 7.9800e-003        | 7.9800e-003        | 0.0000        | 33.4476        | 33.4476        | 1.8800e-003        | 0.0000        | 33.4872        |
| <b>Total</b>    | <b>0.7604</b> | <b>0.1597</b> | <b>0.2371</b> | <b>3.9000e-004</b> |               | <b>7.9800e-003</b> | <b>7.9800e-003</b> |                | <b>7.9800e-003</b> | <b>7.9800e-003</b> | <b>0.0000</b> | <b>33.4476</b> | <b>33.4476</b> | <b>1.8800e-003</b> | <b>0.0000</b> | <b>33.4872</b> |

### 3.3 Architectural Coating - 2024

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1760        | 0.0470        | 0.4413        | 1.7900e-003        | 0.1450        | 1.0900e-003        | 0.1461        | 0.0385         | 1.0100e-003        | 0.0395        | 0.0000        | 108.6117        | 108.6117        | 4.7200e-003        | 0.0000        | 108.7109        |
| <b>Total</b> | <b>0.1760</b> | <b>0.0470</b> | <b>0.4413</b> | <b>1.7900e-003</b> | <b>0.1450</b> | <b>1.0900e-003</b> | <b>0.1461</b> | <b>0.0385</b>  | <b>1.0100e-003</b> | <b>0.0395</b> | <b>0.0000</b> | <b>108.6117</b> | <b>108.6117</b> | <b>4.7200e-003</b> | <b>0.0000</b> | <b>108.7109</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7367        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3082        | 0.2401        | 3.9000e-004        |               | 0.0125        | 0.0125        |                | 0.0125        | 0.0125        | 0.0000        | 33.4476        | 33.4476        | 1.8800e-003        | 0.0000        | 33.4871        |
| <b>Total</b>    | <b>0.7516</b> | <b>0.3082</b> | <b>0.2401</b> | <b>3.9000e-004</b> |               | <b>0.0125</b> | <b>0.0125</b> |                | <b>0.0125</b> | <b>0.0125</b> | <b>0.0000</b> | <b>33.4476</b> | <b>33.4476</b> | <b>1.8800e-003</b> | <b>0.0000</b> | <b>33.4871</b> |

### 3.3 Architectural Coating - 2024

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1760        | 0.0470        | 0.4413        | 1.7900e-003        | 0.1450        | 1.0900e-003        | 0.1461        | 0.0385         | 1.0100e-003        | 0.0395        | 0.0000        | 108.6117        | 108.6117        | 4.7200e-003        | 0.0000        | 108.7109        |
| <b>Total</b> | <b>0.1760</b> | <b>0.0470</b> | <b>0.4413</b> | <b>1.7900e-003</b> | <b>0.1450</b> | <b>1.0900e-003</b> | <b>0.1461</b> | <b>0.0385</b>  | <b>1.0100e-003</b> | <b>0.0395</b> | <b>0.0000</b> | <b>108.6117</b> | <b>108.6117</b> | <b>4.7200e-003</b> | <b>0.0000</b> | <b>108.7109</b> |

### 3.3 Architectural Coating - 2025

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0223        | 0.1495        | 0.2361        | 3.9000e-004        |               | 6.7200e-003        | 6.7200e-003        |                | 6.7200e-003        | 6.7200e-003        | 0.0000        | 33.3200        | 33.3200        | 1.8200e-003        | 0.0000        | 33.3581        |
| <b>Total</b>    | <b>0.7562</b> | <b>0.1495</b> | <b>0.2361</b> | <b>3.9000e-004</b> |               | <b>6.7200e-003</b> | <b>6.7200e-003</b> |                | <b>6.7200e-003</b> | <b>6.7200e-003</b> | <b>0.0000</b> | <b>33.3200</b> | <b>33.3200</b> | <b>1.8200e-003</b> | <b>0.0000</b> | <b>33.3581</b> |

### 3.3 Architectural Coating - 2025

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1694        | 0.0448        | 0.4214        | 1.7800e-003        | 0.1444        | 1.1000e-003        | 0.1455        | 0.0384         | 1.0200e-003        | 0.0394        | 0.0000        | 106.8969        | 106.8969        | 4.5700e-003        | 0.0000        | 106.9929        |
| <b>Total</b> | <b>0.1694</b> | <b>0.0448</b> | <b>0.4214</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.1000e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>1.0200e-003</b> | <b>0.0394</b> | <b>0.0000</b> | <b>106.8969</b> | <b>106.8969</b> | <b>4.5700e-003</b> | <b>0.0000</b> | <b>106.9929</b> |

#### Mitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.7339        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0149        | 0.3070        | 0.2391        | 3.9000e-004        |               | 0.0124        | 0.0124        |                | 0.0124        | 0.0124        | 0.0000        | 33.3199        | 33.3199        | 1.8200e-003        | 0.0000        | 33.3581        |
| <b>Total</b>    | <b>0.7488</b> | <b>0.3070</b> | <b>0.2391</b> | <b>3.9000e-004</b> |               | <b>0.0124</b> | <b>0.0124</b> |                | <b>0.0124</b> | <b>0.0124</b> | <b>0.0000</b> | <b>33.3199</b> | <b>33.3199</b> | <b>1.8200e-003</b> | <b>0.0000</b> | <b>33.3581</b> |

### 3.3 Architectural Coating - 2025

#### Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.1694        | 0.0448        | 0.4214        | 1.7800e-003        | 0.1444        | 1.1000e-003        | 0.1455        | 0.0384         | 1.0200e-003        | 0.0394        | 0.0000        | 106.8969        | 106.8969        | 4.5700e-003        | 0.0000        | 106.9929        |
| <b>Total</b> | <b>0.1694</b> | <b>0.0448</b> | <b>0.4214</b> | <b>1.7800e-003</b> | <b>0.1444</b> | <b>1.1000e-003</b> | <b>0.1455</b> | <b>0.0384</b>  | <b>1.0200e-003</b> | <b>0.0394</b> | <b>0.0000</b> | <b>106.8969</b> | <b>106.8969</b> | <b>4.5700e-003</b> | <b>0.0000</b> | <b>106.9929</b> |

### 3.4 Paving - 2014

#### Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1558        | 1.7217        | 0.9877        | 1.4700e-003        |               | 0.0959        | 0.0959        |                | 0.0882        | 0.0882        | 0.0000        | 141.5121        | 141.5121        | 0.0418        | 0.0000        | 142.3903        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1558</b> | <b>1.7217</b> | <b>0.9877</b> | <b>1.4700e-003</b> |               | <b>0.0959</b> | <b>0.0959</b> |                | <b>0.0882</b> | <b>0.0882</b> | <b>0.0000</b> | <b>141.5121</b> | <b>141.5121</b> | <b>0.0418</b> | <b>0.0000</b> | <b>142.3903</b> |

**3.4 Paving - 2014****Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr       |                    |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 0.0167        | 5.4800e-003        | 0.0528        | 1.0000e-004        | 7.9400e-003        | 7.0000e-005        | 8.0100e-003        | 2.1100e-003        | 6.0000e-005        | 2.1700e-003        | 0.0000        | 7.9334        | 7.9334        | 4.6000e-004        | 0.0000        | 7.9431        |
| <b>Total</b> | <b>0.0167</b> | <b>5.4800e-003</b> | <b>0.0528</b> | <b>1.0000e-004</b> | <b>7.9400e-003</b> | <b>7.0000e-005</b> | <b>8.0100e-003</b> | <b>2.1100e-003</b> | <b>6.0000e-005</b> | <b>2.1700e-003</b> | <b>0.0000</b> | <b>7.9334</b> | <b>7.9334</b> | <b>4.6000e-004</b> | <b>0.0000</b> | <b>7.9431</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.0602        | 1.4343        | 1.1172        | 1.4700e-003        |               | 0.0432        | 0.0432        |                | 0.0432        | 0.0432        | 0.0000        | 141.5119        | 141.5119        | 0.0418        | 0.0000        | 142.3901        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.0602</b> | <b>1.4343</b> | <b>1.1172</b> | <b>1.4700e-003</b> |               | <b>0.0432</b> | <b>0.0432</b> |                | <b>0.0432</b> | <b>0.0432</b> | <b>0.0000</b> | <b>141.5119</b> | <b>141.5119</b> | <b>0.0418</b> | <b>0.0000</b> | <b>142.3901</b> |

**3.4 Paving - 2014****Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr       |                    |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 0.0167        | 5.4800e-003        | 0.0528        | 1.0000e-004        | 7.9400e-003        | 7.0000e-005        | 8.0100e-003        | 2.1100e-003        | 6.0000e-005        | 2.1700e-003        | 0.0000        | 7.9334        | 7.9334        | 4.6000e-004        | 0.0000        | 7.9431        |
| <b>Total</b> | <b>0.0167</b> | <b>5.4800e-003</b> | <b>0.0528</b> | <b>1.0000e-004</b> | <b>7.9400e-003</b> | <b>7.0000e-005</b> | <b>8.0100e-003</b> | <b>2.1100e-003</b> | <b>6.0000e-005</b> | <b>2.1700e-003</b> | <b>0.0000</b> | <b>7.9334</b> | <b>7.9334</b> | <b>4.6000e-004</b> | <b>0.0000</b> | <b>7.9431</b> |

**3.4 Paving - 2015****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.3024        | 3.2855        | 1.9546        | 2.9100e-003        |               | 0.1846        | 0.1846        |                | 0.1699        | 0.1699        | 0.0000        | 277.0150        | 277.0150        | 0.0827        | 0.0000        | 278.7517        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.3024</b> | <b>3.2855</b> | <b>1.9546</b> | <b>2.9100e-003</b> |               | <b>0.1846</b> | <b>0.1846</b> |                | <b>0.1699</b> | <b>0.1699</b> | <b>0.0000</b> | <b>277.0150</b> | <b>277.0150</b> | <b>0.0827</b> | <b>0.0000</b> | <b>278.7517</b> |

**3.4 Paving - 2015****Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0306        | 9.7800e-003        | 0.0937        | 1.9000e-004        | 0.0157        | 1.3000e-004        | 0.0158        | 4.1700e-003        | 1.2000e-004        | 4.2900e-003        | 0.0000        | 15.1593        | 15.1593        | 8.4000e-004        | 0.0000        | 15.1769        |
| <b>Total</b> | <b>0.0306</b> | <b>9.7800e-003</b> | <b>0.0937</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.3000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.2000e-004</b> | <b>4.2900e-003</b> | <b>0.0000</b> | <b>15.1593</b> | <b>15.1593</b> | <b>8.4000e-004</b> | <b>0.0000</b> | <b>15.1769</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1190        | 2.8360        | 2.2091        | 2.9100e-003        |               | 0.0854        | 0.0854        |                | 0.0854        | 0.0854        | 0.0000        | 277.0146        | 277.0146        | 0.0827        | 0.0000        | 278.7514        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1190</b> | <b>2.8360</b> | <b>2.2091</b> | <b>2.9100e-003</b> |               | <b>0.0854</b> | <b>0.0854</b> |                | <b>0.0854</b> | <b>0.0854</b> | <b>0.0000</b> | <b>277.0146</b> | <b>277.0146</b> | <b>0.0827</b> | <b>0.0000</b> | <b>278.7514</b> |

**3.4 Paving - 2015****Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0306        | 9.7800e-003        | 0.0937        | 1.9000e-004        | 0.0157        | 1.3000e-004        | 0.0158        | 4.1700e-003        | 1.2000e-004        | 4.2900e-003        | 0.0000        | 15.1593        | 15.1593        | 8.4000e-004        | 0.0000        | 15.1769        |
| <b>Total</b> | <b>0.0306</b> | <b>9.7800e-003</b> | <b>0.0937</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.3000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.2000e-004</b> | <b>4.2900e-003</b> | <b>0.0000</b> | <b>15.1593</b> | <b>15.1593</b> | <b>8.4000e-004</b> | <b>0.0000</b> | <b>15.1769</b> |

**3.4 Paving - 2016****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2727        | 2.9214        | 1.9337        | 2.9100e-003        |               | 0.1646        | 0.1646        |                | 0.1514        | 0.1514        | 0.0000        | 274.2303        | 274.2303        | 0.0827        | 0.0000        | 275.9674        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2727</b> | <b>2.9214</b> | <b>1.9337</b> | <b>2.9100e-003</b> |               | <b>0.1646</b> | <b>0.1646</b> |                | <b>0.1514</b> | <b>0.1514</b> | <b>0.0000</b> | <b>274.2303</b> | <b>274.2303</b> | <b>0.0827</b> | <b>0.0000</b> | <b>275.9674</b> |

**3.4 Paving - 2016****Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0285        | 8.8700e-003        | 0.0845        | 1.9000e-004        | 0.0157        | 1.2000e-004        | 0.0158        | 4.1700e-003        | 1.1000e-004        | 4.2800e-003        | 0.0000        | 14.6286        | 14.6286        | 7.7000e-004        | 0.0000        | 14.6448        |
| <b>Total</b> | <b>0.0285</b> | <b>8.8700e-003</b> | <b>0.0845</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.2000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.1000e-004</b> | <b>4.2800e-003</b> | <b>0.0000</b> | <b>14.6286</b> | <b>14.6286</b> | <b>7.7000e-004</b> | <b>0.0000</b> | <b>14.6448</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1190        | 2.8360        | 2.2091        | 2.9100e-003        |               | 0.0854        | 0.0854        |                | 0.0854        | 0.0854        | 0.0000        | 274.2300        | 274.2300        | 0.0827        | 0.0000        | 275.9670        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1190</b> | <b>2.8360</b> | <b>2.2091</b> | <b>2.9100e-003</b> |               | <b>0.0854</b> | <b>0.0854</b> |                | <b>0.0854</b> | <b>0.0854</b> | <b>0.0000</b> | <b>274.2300</b> | <b>274.2300</b> | <b>0.0827</b> | <b>0.0000</b> | <b>275.9670</b> |

**3.4 Paving - 2016****Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0285        | 8.8700e-003        | 0.0845        | 1.9000e-004        | 0.0157        | 1.2000e-004        | 0.0158        | 4.1700e-003        | 1.1000e-004        | 4.2800e-003        | 0.0000        | 14.6286        | 14.6286        | 7.7000e-004        | 0.0000        | 14.6448        |
| <b>Total</b> | <b>0.0285</b> | <b>8.8700e-003</b> | <b>0.0845</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.2000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.1000e-004</b> | <b>4.2800e-003</b> | <b>0.0000</b> | <b>14.6286</b> | <b>14.6286</b> | <b>7.7000e-004</b> | <b>0.0000</b> | <b>14.6448</b> |

**3.4 Paving - 2017****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2480        | 2.6385        | 1.9145        | 2.9000e-003        |               | 0.1480        | 0.1480        |                | 0.1362        | 0.1362        | 0.0000        | 269.0144        | 269.0144        | 0.0824        | 0.0000        | 270.7454        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2480</b> | <b>2.6385</b> | <b>1.9145</b> | <b>2.9000e-003</b> |               | <b>0.1480</b> | <b>0.1480</b> |                | <b>0.1362</b> | <b>0.1362</b> | <b>0.0000</b> | <b>269.0144</b> | <b>269.0144</b> | <b>0.0824</b> | <b>0.0000</b> | <b>270.7454</b> |

**3.4 Paving - 2017****Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0264        | 8.0300e-003        | 0.0759        | 1.9000e-004        | 0.0156        | 1.2000e-004        | 0.0158        | 4.1600e-003        | 1.1000e-004        | 4.2600e-003        | 0.0000        | 14.0095        | 14.0095        | 7.1000e-004        | 0.0000        | 14.0245        |
| <b>Total</b> | <b>0.0264</b> | <b>8.0300e-003</b> | <b>0.0759</b> | <b>1.9000e-004</b> | <b>0.0156</b> | <b>1.2000e-004</b> | <b>0.0158</b> | <b>4.1600e-003</b> | <b>1.1000e-004</b> | <b>4.2600e-003</b> | <b>0.0000</b> | <b>14.0095</b> | <b>14.0095</b> | <b>7.1000e-004</b> | <b>0.0000</b> | <b>14.0245</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1186        | 2.8251        | 2.2006        | 2.9000e-003        |               | 0.0851        | 0.0851        |                | 0.0851        | 0.0851        | 0.0000        | 269.0141        | 269.0141        | 0.0824        | 0.0000        | 270.7450        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1186</b> | <b>2.8251</b> | <b>2.2006</b> | <b>2.9000e-003</b> |               | <b>0.0851</b> | <b>0.0851</b> |                | <b>0.0851</b> | <b>0.0851</b> | <b>0.0000</b> | <b>269.0141</b> | <b>269.0141</b> | <b>0.0824</b> | <b>0.0000</b> | <b>270.7450</b> |

**3.4 Paving - 2017****Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0264        | 8.0300e-003        | 0.0759        | 1.9000e-004        | 0.0156        | 1.2000e-004        | 0.0158        | 4.1600e-003        | 1.1000e-004        | 4.2600e-003        | 0.0000        | 14.0095        | 14.0095        | 7.1000e-004        | 0.0000        | 14.0245        |
| <b>Total</b> | <b>0.0264</b> | <b>8.0300e-003</b> | <b>0.0759</b> | <b>1.9000e-004</b> | <b>0.0156</b> | <b>1.2000e-004</b> | <b>0.0158</b> | <b>4.1600e-003</b> | <b>1.1000e-004</b> | <b>4.2600e-003</b> | <b>0.0000</b> | <b>14.0095</b> | <b>14.0095</b> | <b>7.1000e-004</b> | <b>0.0000</b> | <b>14.0245</b> |

**3.4 Paving - 2018****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.2103        | 2.2397        | 1.8915        | 2.9100e-003        |               | 0.1225        | 0.1225        |                | 0.1127        | 0.1127        | 0.0000        | 265.8121        | 265.8121        | 0.0828        | 0.0000        | 267.5499        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2103</b> | <b>2.2397</b> | <b>1.8915</b> | <b>2.9100e-003</b> |               | <b>0.1225</b> | <b>0.1225</b> |                | <b>0.1127</b> | <b>0.1127</b> | <b>0.0000</b> | <b>265.8121</b> | <b>265.8121</b> | <b>0.0828</b> | <b>0.0000</b> | <b>267.5499</b> |

### 3.4 Paving - 2018

#### Unmitigated Construction Off-Site

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0247        | 7.3500e-003        | 0.0689        | 1.9000e-004        | 0.0157        | 1.1000e-004        | 0.0158        | 4.1700e-003        | 1.1000e-004        | 4.2800e-003        | 0.0000        | 13.5353        | 13.5353        | 6.7000e-004        | 0.0000        | 13.5493        |
| <b>Total</b> | <b>0.0247</b> | <b>7.3500e-003</b> | <b>0.0689</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.1000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.1000e-004</b> | <b>4.2800e-003</b> | <b>0.0000</b> | <b>13.5353</b> | <b>13.5353</b> | <b>6.7000e-004</b> | <b>0.0000</b> | <b>13.5493</b> |

#### Mitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1190        | 2.8360        | 2.2091        | 2.9100e-003        |               | 0.0854        | 0.0854        |                | 0.0854        | 0.0854        | 0.0000        | 265.8118        | 265.8118        | 0.0828        | 0.0000        | 267.5495        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1190</b> | <b>2.8360</b> | <b>2.2091</b> | <b>2.9100e-003</b> |               | <b>0.0854</b> | <b>0.0854</b> |                | <b>0.0854</b> | <b>0.0854</b> | <b>0.0000</b> | <b>265.8118</b> | <b>265.8118</b> | <b>0.0828</b> | <b>0.0000</b> | <b>267.5495</b> |

**3.4 Paving - 2018****Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0247        | 7.3500e-003        | 0.0689        | 1.9000e-004        | 0.0157        | 1.1000e-004        | 0.0158        | 4.1700e-003        | 1.1000e-004        | 4.2800e-003        | 0.0000        | 13.5353        | 13.5353        | 6.7000e-004        | 0.0000        | 13.5493        |
| <b>Total</b> | <b>0.0247</b> | <b>7.3500e-003</b> | <b>0.0689</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.1000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.1000e-004</b> | <b>4.2800e-003</b> | <b>0.0000</b> | <b>13.5353</b> | <b>13.5353</b> | <b>6.7000e-004</b> | <b>0.0000</b> | <b>13.5493</b> |

**3.4 Paving - 2019****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1861        | 1.9491        | 1.8747        | 2.9100e-003        |               | 0.1056        | 0.1056        |                | 0.0972        | 0.0972        | 0.0000        | 261.5151        | 261.5151        | 0.0827        | 0.0000        | 263.2526        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1861</b> | <b>1.9491</b> | <b>1.8747</b> | <b>2.9100e-003</b> |               | <b>0.1056</b> | <b>0.1056</b> |                | <b>0.0972</b> | <b>0.0972</b> | <b>0.0000</b> | <b>261.5151</b> | <b>261.5151</b> | <b>0.0827</b> | <b>0.0000</b> | <b>263.2526</b> |

**3.4 Paving - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0234        | 6.8000e-003        | 0.0634        | 1.9000e-004        | 0.0157        | 1.1000e-004        | 0.0158        | 4.1700e-003        | 1.1000e-004        | 4.2800e-003        | 0.0000        | 13.0456        | 13.0456        | 6.3000e-004        | 0.0000        | 13.0588        |
| <b>Total</b> | <b>0.0234</b> | <b>6.8000e-003</b> | <b>0.0634</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.1000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.1000e-004</b> | <b>4.2800e-003</b> | <b>0.0000</b> | <b>13.0456</b> | <b>13.0456</b> | <b>6.3000e-004</b> | <b>0.0000</b> | <b>13.0588</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1190        | 2.8360        | 2.2091        | 2.9100e-003        |               | 0.0854        | 0.0854        |                | 0.0854        | 0.0854        | 0.0000        | 261.5147        | 261.5147        | 0.0827        | 0.0000        | 263.2523        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1190</b> | <b>2.8360</b> | <b>2.2091</b> | <b>2.9100e-003</b> |               | <b>0.0854</b> | <b>0.0854</b> |                | <b>0.0854</b> | <b>0.0854</b> | <b>0.0000</b> | <b>261.5147</b> | <b>261.5147</b> | <b>0.0827</b> | <b>0.0000</b> | <b>263.2523</b> |

**3.4 Paving - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0234        | 6.8000e-003        | 0.0634        | 1.9000e-004        | 0.0157        | 1.1000e-004        | 0.0158        | 4.1700e-003        | 1.1000e-004        | 4.2800e-003        | 0.0000        | 13.0456        | 13.0456        | 6.3000e-004        | 0.0000        | 13.0588        |
| <b>Total</b> | <b>0.0234</b> | <b>6.8000e-003</b> | <b>0.0634</b> | <b>1.9000e-004</b> | <b>0.0157</b> | <b>1.1000e-004</b> | <b>0.0158</b> | <b>4.1700e-003</b> | <b>1.1000e-004</b> | <b>4.2800e-003</b> | <b>0.0000</b> | <b>13.0456</b> | <b>13.0456</b> | <b>6.3000e-004</b> | <b>0.0000</b> | <b>13.0588</b> |

**3.4 Paving - 2020****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1742        | 1.8058        | 1.8802        | 2.9200e-003        |               | 0.0968        | 0.0968        |                | 0.0891        | 0.0891        | 0.0000        | 256.7870        | 256.7870        | 0.0831        | 0.0000        | 258.5310        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1742</b> | <b>1.8058</b> | <b>1.8802</b> | <b>2.9200e-003</b> |               | <b>0.0968</b> | <b>0.0968</b> |                | <b>0.0891</b> | <b>0.0891</b> | <b>0.0000</b> | <b>256.7870</b> | <b>256.7870</b> | <b>0.0831</b> | <b>0.0000</b> | <b>258.5310</b> |

### 3.4 Paving - 2020

#### Unmitigated Construction Off-Site

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0225        | 6.3700e-003        | 0.0595        | 1.9000e-004        | 0.0158        | 1.1000e-004        | 0.0159        | 4.1900e-003        | 1.1000e-004        | 4.2900e-003        | 0.0000        | 12.5679        | 12.5679        | 6.0000e-004        | 0.0000        | 12.5805        |
| <b>Total</b> | <b>0.0225</b> | <b>6.3700e-003</b> | <b>0.0595</b> | <b>1.9000e-004</b> | <b>0.0158</b> | <b>1.1000e-004</b> | <b>0.0159</b> | <b>4.1900e-003</b> | <b>1.1000e-004</b> | <b>4.2900e-003</b> | <b>0.0000</b> | <b>12.5679</b> | <b>12.5679</b> | <b>6.0000e-004</b> | <b>0.0000</b> | <b>12.5805</b> |

#### Mitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Off-Road     | 0.1195        | 2.8468        | 2.2175        | 2.9200e-003        |               | 0.0857        | 0.0857        |                | 0.0857        | 0.0857        | 0.0000        | 256.7867        | 256.7867        | 0.0831        | 0.0000        | 258.5307        |
| Paving       | 0.0000        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.1195</b> | <b>2.8468</b> | <b>2.2175</b> | <b>2.9200e-003</b> |               | <b>0.0857</b> | <b>0.0857</b> |                | <b>0.0857</b> | <b>0.0857</b> | <b>0.0000</b> | <b>256.7867</b> | <b>256.7867</b> | <b>0.0831</b> | <b>0.0000</b> | <b>258.5307</b> |

### 3.4 Paving - 2020

#### Mitigated Construction Off-Site

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0225        | 6.3700e-003        | 0.0595        | 1.9000e-004        | 0.0158        | 1.1000e-004        | 0.0159        | 4.1900e-003        | 1.1000e-004        | 4.2900e-003        | 0.0000        | 12.5679        | 12.5679        | 6.0000e-004        | 0.0000        | 12.5805        |
| <b>Total</b> | <b>0.0225</b> | <b>6.3700e-003</b> | <b>0.0595</b> | <b>1.9000e-004</b> | <b>0.0158</b> | <b>1.1000e-004</b> | <b>0.0159</b> | <b>4.1900e-003</b> | <b>1.1000e-004</b> | <b>4.2900e-003</b> | <b>0.0000</b> | <b>12.5679</b> | <b>12.5679</b> | <b>6.0000e-004</b> | <b>0.0000</b> | <b>12.5805</b> |

### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

|             | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|-------------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category    | tons/yr |         |         |        |               |              |            |                |               |             | MT/yr    |                 |                 |        |        |                 |
| Mitigated   | 17.5058 | 11.2440 | 59.2169 | 0.2021 | 13.8593       | 0.2241       | 14.0834    | 3.7065         | 0.2069        | 3.9135      | 0.0000   | 13,282.53<br>96 | 13,282.53<br>96 | 0.4502 | 0.0000 | 13,291.99<br>38 |
| Unmitigated | 17.5058 | 11.2440 | 59.2169 | 0.2021 | 13.8593       | 0.2241       | 14.0834    | 3.7065         | 0.2069        | 3.9135      | 0.0000   | 13,282.53<br>96 | 13,282.53<br>96 | 0.4502 | 0.0000 | 13,291.99<br>38 |

## 4.2 Trip Summary Information

| Land Use                | Average Daily Trip Rate |           |           | Unmitigated | Mitigated  |
|-------------------------|-------------------------|-----------|-----------|-------------|------------|
|                         | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT |
| City Park               | 12.08                   | 12.08     | 12.08     | 25,798      | 25,798     |
| Condo/Townhouse         | 8,244.09                | 8,957.16  | 7593.57   | 23,564,892  | 23,564,892 |
| Elementary School       | 851.40                  | 0.00      | 0.00      | 1,340,918   | 1,340,918  |
| General Light Industry  | 518.39                  | 98.18     | 50.58     | 1,143,080   | 1,143,080  |
| General Office Building | 246.62                  | 53.09     | 21.95     | 446,597     | 446,597    |
| Single Family Housing   | 2,976.27                | 3,134.88  | 2727.47   | 8,461,365   | 8,461,365  |
| Strip Mall              | 1,329.60                | 1,261.20  | 612.90    | 1,874,902   | 1,874,902  |
| Total                   | 14,178.46               | 13,516.59 | 11,018.55 | 36,857,552  | 36,857,552 |

## 4.3 Trip Type Information

| Land Use                | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                         | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| City Park               | 9.50       | 7.30       | 7.30        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Condo/Townhouse         | 10.80      | 7.30       | 7.50        | 41.60      | 18.80      | 39.60       | 86             | 11       | 3       |
| Elementary School       | 9.50       | 7.30       | 7.30        | 65.00      | 30.00      | 5.00        | 63             | 25       | 12      |
| General Light Industry  | 9.50       | 7.30       | 7.30        | 59.00      | 28.00      | 13.00       | 92             | 5        | 3       |
| General Office Building | 9.50       | 7.30       | 7.30        | 33.00      | 48.00      | 19.00       | 77             | 19       | 4       |
| Single Family Housing   | 10.80      | 7.30       | 7.50        | 41.60      | 18.80      | 39.60       | 86             | 11       | 3       |
| Strip Mall              | 9.50       | 7.30       | 7.30        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |

| LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.511923 | 0.073395 | 0.191568 | 0.130918 | 0.036235 | 0.005199 | 0.012665 | 0.023708 | 0.001889 | 0.002027 | 0.006511 | 0.000534 | 0.003431 |

## 5.0 Energy Detail

### 5.1 Fleet Mix

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

|                         | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category                | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Electricity Mitigated   |         |        |        |             |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000     | 0.0000     | 0.0000 | 0.0000 | 0.0000     |
| Electricity Unmitigated |         |        |        |             |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000     | 0.0000     | 0.0000 | 0.0000 | 0.0000     |
| NaturalGas Mitigated    | 0.1489  | 1.2775 | 0.5793 | 8.1200e-003 |               | 0.1029       | 0.1029     |                | 0.1029        | 0.1029      | 0.0000   | 1,473.4600 | 1,473.4600 | 0.0282 | 0.0270 | 1,482.4272 |
| NaturalGas Unmitigated  | 0.1489  | 1.2775 | 0.5793 | 8.1200e-003 |               | 0.1029       | 0.1029     |                | 0.1029        | 0.1029      | 0.0000   | 1,473.4600 | 1,473.4600 | 0.0282 | 0.0270 | 1,482.4272 |

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

|                         | NaturalGas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|-------------------------|----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use                | kBTU/yr        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Condo/Townhouse         | 1.72526e+007   | 0.0930        | 0.7950        | 0.3383        | 5.0700e-003        |               | 0.0643        | 0.0643        |                | 0.0643        | 0.0643        | 0.0000        | 920.6646          | 920.6646          | 0.0177        | 0.0169        | 926.2676          |
| Elementary School       | 342105         | 1.8400e-003   | 0.0168        | 0.0141        | 1.0000e-004        |               | 1.2700e-003   | 1.2700e-003   |                | 1.2700e-003   | 1.2700e-003   | 0.0000        | 18.2560           | 18.2560           | 3.5000e-004   | 3.3000e-004   | 18.3671           |
| General Light Industry  | 876881         | 4.7300e-003   | 0.0430        | 0.0361        | 2.6000e-004        |               | 3.2700e-003   | 3.2700e-003   |                | 3.2700e-003   | 3.2700e-003   | 0.0000        | 46.7937           | 46.7937           | 9.0000e-004   | 8.6000e-004   | 47.0785           |
| General Office Building | 471072         | 2.5400e-003   | 0.0231        | 0.0194        | 1.4000e-004        |               | 1.7500e-003   | 1.7500e-003   |                | 1.7500e-003   | 1.7500e-003   | 0.0000        | 25.1382           | 25.1382           | 4.8000e-004   | 4.6000e-004   | 25.2912           |
| Single Family Housing   | 8.60024e+006   | 0.0464        | 0.3963        | 0.1686        | 2.5300e-003        |               | 0.0320        | 0.0320        |                | 0.0320        | 0.0320        | 0.0000        | 458.9413          | 458.9413          | 8.8000e-003   | 8.4100e-003   | 461.7344          |
| Strip Mall              | 68700          | 3.7000e-004   | 3.3700e-003   | 2.8300e-003   | 2.0000e-005        |               | 2.6000e-004   | 2.6000e-004   |                | 2.6000e-004   | 2.6000e-004   | 0.0000        | 3.6661            | 3.6661            | 7.0000e-005   | 7.0000e-005   | 3.6884            |
| City Park               | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b>            |                | <b>0.1489</b> | <b>1.2775</b> | <b>0.5794</b> | <b>8.1200e-003</b> |               | <b>0.1029</b> | <b>0.1029</b> |                | <b>0.1029</b> | <b>0.1029</b> | <b>0.0000</b> | <b>1,473.4600</b> | <b>1,473.4600</b> | <b>0.0283</b> | <b>0.0270</b> | <b>1,482.4272</b> |

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

|                         | NaturalGas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|-------------------------|----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use                | kBTU/yr        | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Elementary School       | 342105         | 1.8400e-003   | 0.0168        | 0.0141        | 1.0000e-004        |               | 1.2700e-003   | 1.2700e-003   |                | 1.2700e-003   | 1.2700e-003   | 0.0000        | 18.2560           | 18.2560           | 3.5000e-004   | 3.3000e-004   | 18.3671           |
| General Light Industry  | 876881         | 4.7300e-003   | 0.0430        | 0.0361        | 2.6000e-004        |               | 3.2700e-003   | 3.2700e-003   |                | 3.2700e-003   | 3.2700e-003   | 0.0000        | 46.7937           | 46.7937           | 9.0000e-004   | 8.6000e-004   | 47.0785           |
| General Office Building | 471072         | 2.5400e-003   | 0.0231        | 0.0194        | 1.4000e-004        |               | 1.7500e-003   | 1.7500e-003   |                | 1.7500e-003   | 1.7500e-003   | 0.0000        | 25.1382           | 25.1382           | 4.8000e-004   | 4.6000e-004   | 25.2912           |
| Single Family Housing   | 8.60024e+006   | 0.0464        | 0.3963        | 0.1686        | 2.5300e-003        |               | 0.0320        | 0.0320        |                | 0.0320        | 0.0320        | 0.0000        | 458.9413          | 458.9413          | 8.8000e-003   | 8.4100e-003   | 461.7344          |
| Strip Mall              | 68700          | 3.7000e-004   | 3.3700e-003   | 2.8300e-003   | 2.0000e-005        |               | 2.6000e-004   | 2.6000e-004   |                | 2.6000e-004   | 2.6000e-004   | 0.0000        | 3.6661            | 3.6661            | 7.0000e-005   | 7.0000e-005   | 3.6884            |
| City Park               | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Condo/Townhouse         | 1.72526e+007   | 0.0930        | 0.7950        | 0.3383        | 5.0700e-003        |               | 0.0643        | 0.0643        |                | 0.0643        | 0.0643        | 0.0000        | 920.6646          | 920.6646          | 0.0177        | 0.0169        | 926.2676          |
| <b>Total</b>            |                | <b>0.1489</b> | <b>1.2775</b> | <b>0.5794</b> | <b>8.1200e-003</b> |               | <b>0.1029</b> | <b>0.1029</b> |                | <b>0.1029</b> | <b>0.1029</b> | <b>0.0000</b> | <b>1,473.4600</b> | <b>1,473.4600</b> | <b>0.0283</b> | <b>0.0270</b> | <b>1,482.4272</b> |

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

|                         | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                | kWh/yr          | MT/yr         |               |               |               |
| City Park               | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Condo/Townhouse         | 5.42208e+006    | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Elementary School       | 328862          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| General Light Industry  | 669375          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| General Office Building | 335776          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Single Family Housing   | 2.21565e+006    | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Strip Mall              | 421200          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>            |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

### 5.3 Energy by Land Use - Electricity

#### Mitigated

|                         | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                | kWh/yr          | MT/yr         |               |               |               |
| City Park               | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Condo/Townhouse         | 5.42208e+006    | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Elementary School       | 328862          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| General Light Industry  | 669375          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| General Office Building | 335776          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Single Family Housing   | 2.21565e+006    | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Strip Mall              | 421200          | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>            |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

### 6.0 Area Detail

#### 6.1 Mitigation Measures Area

|             | ROG      | NOx    | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2       | NBio- CO2 | Total CO2      | CH4    | N2O    | CO2e           |
|-------------|----------|--------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------------|-----------|----------------|--------|--------|----------------|
| Category    | tons/yr  |        |          |        |               |              |            |                |               |             | MT/yr          |           |                |        |        |                |
| Mitigated   | 110.8609 | 1.4633 | 132.3316 | 0.0478 |               | 17.0272      | 17.0272    |                | 17.0267       | 17.0267     | 1,613.479<br>9 | 695.6293  | 2,309.109<br>3 | 1.5072 | 0.1269 | 2,380.102<br>3 |
| Unmitigated | 110.8609 | 1.4633 | 132.3316 | 0.0478 |               | 17.0272      | 17.0272    |                | 17.0267       | 17.0267     | 1,613.479<br>9 | 695.6293  | 2,309.109<br>3 | 1.5072 | 0.1269 | 2,380.102<br>3 |

## 6.2 Area by SubCategory

### Unmitigated

|                       | ROG             | NOx           | CO              | SO2           | Fugitive PM10 | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2               | NBio- CO2       | Total CO2              | CH4           | N2O           | CO2e                   |
|-----------------------|-----------------|---------------|-----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|------------------------|-----------------|------------------------|---------------|---------------|------------------------|
| SubCategory           | tons/yr         |               |                 |               |               |                |                |                |                |                | MT/yr                  |                 |                        |               |               |                        |
| Architectural Coating | 3.4271          |               |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 0.0000                 | 0.0000          | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Consumer Products     | 9.0756          |               |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 0.0000                 | 0.0000          | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Hearth                | 98.0096         | 1.3297        | 120.7372        | 0.0472        |               | 16.9629        | 16.9629        |                | 16.9624        | 16.9624        | 1,613.479<br>9         | 676.6700        | 2,290.149<br>9         | 1.4890        | 0.1269        | 2,360.761<br>2         |
| Landscaping           | 0.3486          | 0.1335        | 11.5943         | 6.1000e-004   |               | 0.0643         | 0.0643         |                | 0.0643         | 0.0643         | 0.0000                 | 18.9594         | 18.9594                | 0.0182        | 0.0000        | 19.3411                |
| <b>Total</b>          | <b>110.8609</b> | <b>1.4633</b> | <b>132.3316</b> | <b>0.0478</b> |               | <b>17.0272</b> | <b>17.0272</b> |                | <b>17.0267</b> | <b>17.0267</b> | <b>1,613.479<br/>9</b> | <b>695.6293</b> | <b>2,309.109<br/>3</b> | <b>1.5072</b> | <b>0.1269</b> | <b>2,380.102<br/>3</b> |

## 6.2 Area by SubCategory

### Mitigated

|                       | ROG             | NOx           | CO              | SO2           | Fugitive PM10 | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2               | NBio- CO2       | Total CO2              | CH4           | N2O           | CO2e                   |
|-----------------------|-----------------|---------------|-----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|------------------------|-----------------|------------------------|---------------|---------------|------------------------|
| SubCategory           | tons/yr         |               |                 |               |               |                |                |                |                |                | MT/yr                  |                 |                        |               |               |                        |
| Architectural Coating | 3.4271          |               |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 0.0000                 | 0.0000          | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Consumer Products     | 9.0756          |               |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         | 0.0000                 | 0.0000          | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Hearth                | 98.0096         | 1.3297        | 120.7372        | 0.0472        |               | 16.9629        | 16.9629        |                | 16.9624        | 16.9624        | 1,613.479<br>9         | 676.6700        | 2,290.149<br>9         | 1.4890        | 0.1269        | 2,360.761<br>2         |
| Landscaping           | 0.3486          | 0.1335        | 11.5943         | 6.1000e-004   |               | 0.0643         | 0.0643         |                | 0.0643         | 0.0643         | 0.0000                 | 18.9594         | 18.9594                | 0.0182        | 0.0000        | 19.3411                |
| <b>Total</b>          | <b>110.8609</b> | <b>1.4633</b> | <b>132.3316</b> | <b>0.0478</b> |               | <b>17.0272</b> | <b>17.0272</b> |                | <b>17.0267</b> | <b>17.0267</b> | <b>1,613.479<br/>9</b> | <b>695.6293</b> | <b>2,309.109<br/>3</b> | <b>1.5072</b> | <b>0.1269</b> | <b>2,380.102<br/>3</b> |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

|             | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|-----------|--------|--------|----------|
| Category    | MT/yr     |        |        |          |
| Mitigated   | 40.2197   | 4.1309 | 0.0975 | 157.2071 |
| Unmitigated | 40.2197   | 4.1309 | 0.0975 | 157.2071 |

## 7.2 Water by Land Use

### Unmitigated

|                         | Indoor/Outdoor Use | Total CO2      | CH4           | N2O           | CO2e            |
|-------------------------|--------------------|----------------|---------------|---------------|-----------------|
| Land Use                | Mgal               | MT/yr          |               |               |                 |
| City Park               | 0 / 9.05526        | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Condo/Townhouse         | 81.5077 / 51.3853  | 25.8586        | 2.6559        | 0.0627        | 101.0739        |
| Elementary School       | 1.6 / 4.11428      | 0.5076         | 0.0521        | 1.2300e-003   | 1.9841          |
| General Light Industry  | 17.2004 / 0        | 5.4569         | 0.5605        | 0.0132        | 21.3294         |
| General Office Building | 3.98124 / 2.44011  | 1.2631         | 0.1297        | 3.0600e-003   | 4.9370          |
| Single Family Housing   | 20.2629 / 12.7744  | 6.4285         | 0.6603        | 0.0156        | 25.1271         |
| Strip Mall              | 2.22218 / 1.36198  | 0.7050         | 0.0724        | 1.7100e-003   | 2.7556          |
| <b>Total</b>            |                    | <b>40.2197</b> | <b>4.1310</b> | <b>0.0975</b> | <b>157.2071</b> |

## 7.2 Water by Land Use

### Mitigated

|                         | Indoor/Outdoor Use | Total CO2      | CH4           | N2O           | CO2e            |
|-------------------------|--------------------|----------------|---------------|---------------|-----------------|
| Land Use                | Mgal               | MT/yr          |               |               |                 |
| City Park               | 0 / 9.05526        | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Condo/Townhouse         | 81.5077 / 51.3853  | 25.8586        | 2.6559        | 0.0627        | 101.0739        |
| Elementary School       | 1.6 / 4.11428      | 0.5076         | 0.0521        | 1.2300e-003   | 1.9841          |
| General Light Industry  | 17.2004 / 0        | 5.4569         | 0.5605        | 0.0132        | 21.3294         |
| General Office Building | 3.98124 / 2.44011  | 1.2631         | 0.1297        | 3.0600e-003   | 4.9370          |
| Single Family Housing   | 20.2629 / 12.7744  | 6.4285         | 0.6603        | 0.0156        | 25.1271         |
| Strip Mall              | 2.22218 / 1.36198  | 0.7050         | 0.0724        | 1.7100e-003   | 2.7556          |
| <b>Total</b>            |                    | <b>40.2197</b> | <b>4.1310</b> | <b>0.0975</b> | <b>157.2071</b> |

## 8.0 Waste Detail

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### 8.1 Mitigation Measures Waste

**Category/Year**

|             | Total CO2 | CH4     | N2O    | CO2e     |
|-------------|-----------|---------|--------|----------|
|             | MT/yr     |         |        |          |
| Mitigated   | 244.7279  | 14.4630 | 0.0000 | 548.4511 |
| Unmitigated | 244.7279  | 14.4630 | 0.0000 | 548.4511 |

## 8.2 Waste by Land Use

### Unmitigated

|                         | Waste<br>Disposed | Total CO2       | CH4            | N2O           | CO2e            |
|-------------------------|-------------------|-----------------|----------------|---------------|-----------------|
| Land Use                | tons              | MT/yr           |                |               |                 |
| City Park               | 0.65              | 0.1319          | 7.8000e-003    | 0.0000        | 0.2957          |
| Condo/Townhouse         | 575.46            | 116.8132        | 6.9035         | 0.0000        | 261.7859        |
| Elementary School       | 120.45            | 24.4503         | 1.4450         | 0.0000        | 54.7946         |
| General Light Industry  | 92.23             | 18.7219         | 1.1064         | 0.0000        | 41.9569         |
| General Office Building | 20.83             | 4.2283          | 0.2499         | 0.0000        | 9.4759          |
| Single Family Housing   | 364.49            | 73.9882         | 4.3726         | 0.0000        | 165.8123        |
| Strip Mall              | 31.5              | 6.3942          | 0.3779         | 0.0000        | 14.3299         |
| <b>Total</b>            |                   | <b>244.7279</b> | <b>14.4630</b> | <b>0.0000</b> | <b>548.4511</b> |

## 8.2 Waste by Land Use

### Mitigated

|                         | Waste<br>Disposed | Total CO2       | CH4            | N2O           | CO2e            |
|-------------------------|-------------------|-----------------|----------------|---------------|-----------------|
| Land Use                | tons              | MT/yr           |                |               |                 |
| City Park               | 0.65              | 0.1319          | 7.8000e-003    | 0.0000        | 0.2957          |
| Condo/Townhouse         | 575.46            | 116.8132        | 6.9035         | 0.0000        | 261.7859        |
| Elementary School       | 120.45            | 24.4503         | 1.4450         | 0.0000        | 54.7946         |
| General Light Industry  | 92.23             | 18.7219         | 1.1064         | 0.0000        | 41.9569         |
| General Office Building | 20.83             | 4.2283          | 0.2499         | 0.0000        | 9.4759          |
| Single Family Housing   | 364.49            | 73.9882         | 4.3726         | 0.0000        | 165.8123        |
| Strip Mall              | 31.5              | 6.3942          | 0.3779         | 0.0000        | 14.3299         |
| <b>Total</b>            |                   | <b>244.7279</b> | <b>14.4630</b> | <b>0.0000</b> | <b>548.4511</b> |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

## 10.0 Vegetation